```
<220>
<221> SITE
<222> (4340)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4341)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4342)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4343)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4344)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4345)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4346)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4347)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4348)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4349)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4350)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4351)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4352)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4353)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4354)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4355)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4356)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4357)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4358)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4359)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4360)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4361)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4362)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4363)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4364)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4365)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4366)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4367)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4368)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4369)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4370)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4371)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4372)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4373)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4374)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4375)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

```
<222> (4376)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4377)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4378)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4379)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4380)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4381)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4382)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4383)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4384)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4385)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4386)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4387)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4388)
```

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4389)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4390)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4391)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4392)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4393)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4394)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4395)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4396)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4397)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4398)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4399)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4400)
<223> n equals a,t,g, or c
```

2050

```
<220>
<221> SITE
<222> (4401)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4402)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4403)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4404)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4405)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4406)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4407)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4408)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4409)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4410)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4411)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4412)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4413)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4414)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4415)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4416)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4417)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4418)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4419)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4420)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4421)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4422)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4423)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4424)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4425)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4426)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4427)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4428)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4429)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4430)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4431)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4432)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4433)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4434)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4435)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4436)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

2053

```
<222> (4437)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4438)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4439)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4440)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4441)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4442)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4443)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4444)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4445)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4446)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4447)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4448)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4449)
```

2054

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4450)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4451)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4452)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4453)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4454)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4455)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4456)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4457)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4458)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4459)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4460)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4461)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4462)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4463)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4464)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4465)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4466)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4467)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4468)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4469)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4470)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4471)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4472)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4473)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4474)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4475)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4476)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4477)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4478)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4479)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4480)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4481)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4482)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4483)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4484)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4485)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4486)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4487)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4488)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4489)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4490)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4491)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4492)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4493)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4494)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4495)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4496)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4497)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

```
<222> (4498)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4499)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4500)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4501)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4502)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4503)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4504)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4505)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4506)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4507)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4508)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4509)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4510)
```

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4511)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4512)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4513)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4514)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4515)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4516)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4517)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4518)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4519)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4520)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4521)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4522)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4523)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4524)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4525)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4526)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4527)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4528)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4529)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4530)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4531)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4532)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4533)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4534)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4535)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4536)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4537)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4538)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4539)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4540)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4541)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4542)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4543)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4544)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4545)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4546)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4547)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4548)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4549)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4550)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4551)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4552)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4553)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4554)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4555)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4556)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4557)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4558)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

```
<222> (4559)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4560)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4561)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4562)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4563)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4564)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4565)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4566)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4567)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4568)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4569)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4570)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4571)
```

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4572)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4573)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4574)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4575)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4576)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4577)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4578)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4579)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4580)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4581)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4582)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4583)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4584)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4585)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4586)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4587)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4588)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4589)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4590)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4591)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4592)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4593)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4594)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4595)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4596)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4597)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4598)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4599)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4600)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4601)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4602)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4603)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4604)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4605)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4606)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4607)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4608)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4609)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4610)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4611)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4612)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4613)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4614)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4615)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4616)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4617)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4618)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4619)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

```
<222> (4620)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4621)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4622)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4623)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4624)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4625)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4626)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4627)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4628)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4629)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4630)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4631)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4632)
```

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4633)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4634)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4635)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4636)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4637)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4638)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4639)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4640)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4641)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4642)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4643)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4644)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4645)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4646)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4647)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4648)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4649)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4650)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4651)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4652)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4653)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4654)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4655)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4656)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4657)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4658)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4659)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4660)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4661)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4662)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4663)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4664)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4665)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4666)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4667)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4668)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4669)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4670)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4671)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4672)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4673)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4674)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4675)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4676)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4677)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4678)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4679)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4680)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

```
<222> (4681)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4682)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4683)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4684)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4685)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4686)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4687)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4688)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4689)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4690)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4691)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4692)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4693)
```

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4694)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4695)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4696)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4697)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4698)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4699)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4700)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4701)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4702)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4703)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4704)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4705)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4706)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4707)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4708)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4709)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4710)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4711)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4712)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4713)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4714)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4715)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4716)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4717)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4718)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4719)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4720)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4721)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4722)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4723)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4724)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4725)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4726)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4727)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4728)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4729)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4730)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4731)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4732)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4733)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4734)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4735)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4736)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4737)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4738)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4739)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4740)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4741)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

```
<222> (4742)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4743)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4744)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4745)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4746)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4747)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4748)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4749)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4750)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4751)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4752)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4753)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4754)
```

2079

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4755)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4756)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4757)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4758)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4759)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4760)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4761)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4762)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4763)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4764)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4765)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4766)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4767)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4768)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4769)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4770)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4771)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4772)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4773)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4774)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4775)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4776)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4777)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4778)
<223> n equals a,t,g, or c
```

2081

```
<220>
<221> SITE
<222> (4779)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4780)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4781)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4782)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4783)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4784)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4785)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4786)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4787)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4788)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4789)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4790)
<223> n equals a,t,g, or c

<220>
```

2082

```
<221> SITE
<222> (4791)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4792)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4793)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4794)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4795)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4796)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4797)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4798)
<223> n equals a,t,g, or c    .


<220>
<221> SITE
<222> (4799)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4800)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4801)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4802)
<223> n equals a,t,g, or c


<220>
<221> SITE
```

```
<222> (4803)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4804)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4805)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4806)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4807)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4808)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4809)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4810)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4811)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4812)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4813)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4814)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4815)
```

2084

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4816)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4817)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4818)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4819)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4820)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4821)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4822)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4823)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4824)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4825)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4826)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4827)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4828)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4829)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4830)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4831)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4832)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4833)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4834)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4835)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4836)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4837)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4838)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4839)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4840)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4841)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4842)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4843)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4844)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4845)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4846)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4847)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4848)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4849)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4850)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4851)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (4852)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4853)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4854)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4855)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4856)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4857)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4858)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4859)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4860)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4861)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4862)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4863)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

```
<222> (4864)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4865)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4866)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4867)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4868)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4869)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4870)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4871)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4872)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4873)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4874)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4875)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (4876)
```

```
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4877)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4878)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4879)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4880)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4881)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4882)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4883)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4884)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4885)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4886)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4887)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4888)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4889)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4890)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4891)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4892)
<223> n equals a,t,g, or c

<400> 2034
tattnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn     60
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    120
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    180
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    240
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    300
nnnntgagat agaatctcac tctgttgccc aggctggggt gcagtggtgc gatctcagct    360
ccccacaacc tctgcctcca gggttcaagc aattctcctg cctcagcctc ctgagtatct    420
gggattacag gcatgcacca ctacgcttgg ctaatttttg tatttttagt agagacgggg    480
tttcaccatg ttggccaggc tggtcttgaa ctcctgacct caggtgattc gcccgccttg    540
gcctcccaaa gtgctgggat tacaggcatg agccaccgtg cctggctgaa agttcatttt    600
caatagcata gtccagacca tttttttttct aaatgtgcta ccagaatcaa agaaataata    660
acattccatt aaaacaaata aaatggcatt aaattaaatg ttctgcataa tttaagagcc    720
ctgaccaatt ttagtctttt tttttttttt gagacagagt ctcactgtgt cgcccaggct    780
ggagtgcagt ggtacgatct tggctcactg cagcctccac ctcctgggtt caagtgattc    840
tcctgcctca acctcccgag cagctgggat tacaggcatg tgccaccata cctggctaat    900
ttttatatct ttagtagaga tggggtttca ccatgttggc caggctggtc tcaaactctt    960
gacctcaggt gatctgcccg cctcggcctc ccaaagtgct ggcattacag gcatgagtca   1020
ctgcgcctgg cctagtctat tattaacaaa taaaaatttt aatacataaa aatggatgga   1080
tattttctag agccttaatt aagtaattca ctccaaatgt cttttttttt ttttttttta   1140
gctagtaagt ggagacactt tgaaacatgg tgcttaaaaa aaaacacact acctacctgg   1200
tgggctgttt catggtgaaa taacttattc tgtataattt gaatgcaatt cagatactat   1260
gtagatgtta aaaagctaag ttaacataaa atgtacatca tgaaacgtca ccttacttga   1320
cggcattaat acattttttc cactaaaata cttgtaacca tggccatcag tatgaagaaa   1380
aattttaaac acgatgaaag gtggaaacgt ttcacctcta aatctgaaat aaagataaaa   1440
atttagttat ttggcatcag gttttgggct cagttgcttt tccccttat acttaagata   1500
gttcatatag tttcttgcat acagggtaaa ggctatgtca gagcatgtaa agaactggta   1560
atgaaatgga tcacatagga tgtaagaccc acactttggt gtactcacaa ctattctcat   1620
acctgtgtaa gactgaatac agaatgggag atgagagcta ctctcatggc aactttttagc   1680
cacagagtca tgcctcggtt tctttacata acaaatgtaa ataagaataa cacatttact   1740
ttgtaattaa gttctgagaa gttacaagaa tttaaaaaat ccatatctaa gatttcctca   1800
tattaactaa gtacttcttg aaataaatca gcatagatac attacctgaa tctaattta   1860
cactgcatag taggatcctt aataagctta gcctctaagg gggccacttt cttcagtatt   1920
tcatgtgtta catagaattc ctgaaataaa ggacagtgct gtaaaggaa agcagtatcc   1980
cacccagaca caatttatgg actataacag aggcaacgtg gtaaagtgaa cattatgctg   2040
gacttggagt tctgaagggg tgggtttttg ttttggcacc tccacttact atctgtgtag   2100
ccttgagcca gttacttaat cattttggcc tccaactttg gttatctgtc ccttttagag   2160
atcaaaggca ctattatttc cctatgacag cacttttcac aatatattat aattacttat   2220
caacttgtct gtgcctccta ctagactgta agcttcatga aggtagggat ggtggctttt   2280
ctctttacca ctatattcct agcatctaat acagtgcctg gaacacagca gatgcttaag   2340
```

```
aagtatttgt tgaatgaatc actgtaagat gaggatgata atagtaataa gttactagct    2400
tttaagcacc tttttatgtac catatactac tatgttaggt gccttatata cattagctca    2460
tttaatcctt acatcagcaa cactatgaga attttttgtt tgttttgaga cagagtctcg    2520
ctccgtcgcc caggctcgag tgcggtggca tgatctcggc tcactgcaac ctccgcctcc    2580
caggttcaag cgattctcct gcctcagcct cccgagtagc tgggactaca ggcacctgcc    2640
accacgcccg gctaattttg tattttttca gtagagacgg ggtttcacca tattggccag    2700
gctggcctgg aactcctgac cttgtgagcc gcacgcctca gcctcccaaa gtgctgggat    2760
tacaggtgtg agccaccact caggctgcag tgcaatggca tgatctcggc tcaccgcaac    2820
ctccacctcc caggttcaag tgattctcct gctcagcctc ctgagtagct ggaattacag    2880
gcatgcgcca ccatgcctgg ctaattttgt attttttaata gagatggggt ttcttcatgt    2940
tggtcaggct ggtctcgagc tcccgacttc aggtgatcca cccgcctcag cctcccaaag    3000
tgctgggatt acaggcgtga gccactgcac ctggcccatt atgagaatat tatcacgcct    3060
attttacaga tgagaaggct gaggctcagg gaattttttgt aatttataaa aaggcataca    3120
ggtagtgaat ggggaagcca ggattcattt agttctgttt gactctaaag tcccaactct    3180
ttcccccaaa caacccccaac caaccccgtt atgcctatga taatcacata aaaatgtaca    3240
ctaaagagct tttaggctgg gcactgcggc tcacgcctat aatcctggca ctttgggagg    3300
ccaaagcggg aggatcacct gaggtcaaga gttcgagacc aacctggtca acatggtgaa    3360
accccatctc tactaaaaat acaaaaatta gccaggcgtg atggcaggcg cctgtagtcc    3420
aagctatttg ggaggctgaa gcaggagaat cgcttgaacc cgggaggcag aggttgcagg    3480
gagccgagat cgtgccactg cactccagcc tgggtgacag agcaagactc tgctcaaaat    3540
aaataaataa atagctttta aaaggacaaa gcattattaa tttaaggtat taaagtatta    3600
ctataacaga taaaaaagaa tttccttctg ttacaaagt ctaaaaatac tatgaaacca    3660
gcattataaa attaaataca agttccatat tcaaagacaa tggataatag acctgaaatg    3720
ccaggagttt acctgggtgg gttttctctg aagtattcag acggagtctt gctctgtcgc    3780
ccaggctgga gtgcagtggc tcaaactcgg ctcactataa cctccacctc cccggttcaa    3840
ggtagctggg attacaggcg cacaccacca tgcccggcta atttttttgt attttttagga    3900
gagacggggt attcaccatg gtgaccggac tggtctcgaa ctnnnnnnnn nnnnnnnnnn    3960
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4020
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4080
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4140
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4200
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4260
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4320
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4380
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4440
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4500
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4560
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4620
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4680
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4740
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4800
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn    4860
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnaaaaaaaa aattagctgg gcatggcggc    4920
acgcacctgt agtcccagct actagggagg cggaggcagg ataatccctt gaacctgggt    4980
ggtggaggtt gcagtgagcc aagatcatgc ccctgcactc cagcctgggc aacagagtga    5040
gacttcatct caaaaaagaa aagaaaaaaa agagtatcac taataata                 5088
```

<210> 2035
<211> 1191
<212> DNA
<213> Homo sapiens

<400> 2035

```
aaaaaatgta agctgaaatg atgacgtgtt cttttagaag gtttatcata gcaactacta    60
taggcagtga ttctaagaag atgctattct ttttttccat tgctttgtct agttttttttt   120
ttttaaatct gttttttgtgc ctttgtaatt ctagggttat tggtatagtt ctcaccatat    180
cttgaataca gatgcttttt cctttggaaa taatttctca taaagcacat tgcttatagc    240
tgcttccctt ttcccagagt agtaaaagtt gtgatacaag acagtgatat cagctgggcg    300
tggtggcaca cgcctgtaat cccagcacgt gggaggcca aggcaggcag atcacttgag     360
gccaggagtt cgagaccagc ctggccaaca tggtgaatcc ccgtctctac taaaaataca    420
```

2092

```
cacaaaaaat tagctgggtg tggtggtttg tgcctgtagt cccagctact cgggaggctg    480
aggcacgaga attgcttgaa ccagggaggt ggaggttgca gtaagctgag attgcaccac    540
tacactccag cctgggtgac agaacgagac tctgtctcag aaaaaaaaaa aaagagacaa    600
tgatatgaaa aggtcttaca tgaatgagtt ttacgcatga ttcaatctgt aagtcctata    660
aattattttt gatggatggt atctattttc ttcctattag tagtttgggg caaaaataaa    720
tttaactgaa tgtaaaaata ttcagctcta tggggagctg agaagaacta aatattttca    780
gacacttgtt atgtgcaggt tgtttggcat atattttaa aaatctttat aataccattt    840
tgaattaaat tctatcccca tttaacaaat gaggaggtgg tttctattct taagtaactt    900
tcccaaaatc actcaattaa gtggcaaggg tgggatttaa atcgaagcct atactctttc    960
acttgtttcc aaagatgcca aactcaaaat gtggctaaac agtaaatctt gagcaaagaa   1020
atgatttact aggaagcagc acaatagaac atactggatg taggaaatgt tatatatctt   1080
gatctcattg gtggtaacac aagtatatac atatgaaaaa gttagtttta tccttactgt   1140
tagtactcag tgctcttatt attcctcaaa aatgaaaaaa aaagtaaaaa a            1191
```

```
<210>  2036
<211>  1192
<212>  DNA
<213>  Homo sapiens

<400>  2036
aaaaaatgta agctgaaatg atgacgtgtt ctttagaag gtttatcata gcaactacta     60
taggcagtga ttctaagaag atgctattct tttttccat tgcttggtct agtttttttt    120
tttaaaactc tgttttggtg ccttggtaat tctagggtta ttggtatagt tctcaccata    180
tcttggatac agatgctttt tcctttggaa ataatttctc ataaagcaca ttgcttatag    240
ctgcttccct tttcccagag tagtaaaagt tgtgatacaa gacagtgata tcagctgggc    300
gtggtggcac acgcctgtaa tcccagcacg ttgggaggcc aaggcaggca gatcacttga    360
ggccaggagt tcgagaccag cctggccaac atggtgaatc cccgtctcta ctaaaaatac    420
acacaaaaaa ttagctgggt gtggtggttt gtgcctgtag tcccagctac tcgggaggct    480
gaggcacgag aattgcttga accagggagg tggaggttgc agtaagctga gattgcacca    540
ctacactcca gcctgggtga cagaacgaga ctctgtctca gaaaaaaaaa aaaagagaca    600
atgatatgaa aaggtcttac atgaatgagt tttacgcatg attcaatctg taagtcctat    660
aaattatttt tgatggatgg tatctatttt cttcctatta gtagtttggg gcaaaaataa    720
atttaactga atgtaaaaat attcagctct atggggagct gagaagaact aaatattttc    780
agacacttgt tatgtgcagg ttgtttggca tatattttta aaaatcttta ataccattt    840
ttgaattaaa ttctatcccc atttaacaaa tgaggaggtg gtttctattc ttaagtaact    900
ttcccaaaat cactcaatta gtggcaagg gtgggattta atcgaagcc tatactcttt    960
cacttgtttc caaagatgcc aaactcaaaa tgtggctaaa cagtaaatct tgagcaaaga   1020
aatgatttac taggaagcag cacaatagaa catactggat gtaggaaatg ttatatatct   1080
tgatctcatt ggtggtaaca caagtatata catatgaaaa agttagtttt atccttactg   1140
ttagtactca gtgctcttat tattcctcaa aaatgaaaaa aaaagtaaaa aa           1192
```

```
<210>  2037
<211>  228
<212>  DNA
<213>  Homo sapiens

<400>  2037
tcgaggtcag gagattgaga ccatcctggc taacatggtg aaaccccatc tctactaaaa     60
atacaaaaaa aattagccgg gcgtggtggc gggagcctgt agtcccagct actcgggagg    120
ttgaggcagg agaatggcgt gaacctggga ggcggagctt gtagtgagcc aagatcatgc    180
cactgcactc cagcctgggc gacagagcga gactccgtct caaaaaaa                 228
```

```
<210>  2038
<211>  711
<212>  DNA
<213>  Homo sapiens

<400>  2038
```

```
aggagatgaa actagagatt tgtgccaaat tgtgaaaggc cttgactgcc ttgcttcttg      60
ctaaacagtg gaatttatca acccactgag acaaagtcag ttaagatttt tgagccttcc     120
atatatttag ctgcttatat ttaatgtctt gtctttaaaa ataacacgta tgacttgttg     180
tttgcatgct tttgcatata taacttatt gaagttaggt gcttctactg attgactttg     240
acttttgtt cacaaaaata tagggatctt gatttatgac tggaccactt aatgtattaa     300
tttgcactgt gttatatcct aaacttttaa aactactcat gactaatgtc tttcaccaaa     360
ctgttaccta cgaactttct aaagaaatgt gtgacaaagg cgtgattagt ttcatttgct     420
ctgccatttt tagctgtata tgtgataaaa catgttttaa tacatctctt tttaacttcg     480
attttatttg gaatttttga atgagctgtt tgtttgtttt taagcaaagt aattggagtg     540
aactttcttt gattcccagg ttttctttt tcccctttt tctttttta ttgcattggt     600
agatgcaggg caagaaattt attactctaa atttgtgact cagaatttta aaactaaatt     660
aacttcataa atgcgctcac ttttttctta atgcattacg tctaacccc a             711
```

<210> 2039
<211> 374
<212> DNA
<213> Homo sapiens

<400> 2039
```
cctctctcta caagatggta taaaatttag tattattta aagaaataat acctagcagc      60
agtaacctgg cagcccaaag gctgtatatg gcccgtagat gtgtatattt atgtattttg     120
tatcagcatt taaaactagg agatttgta ttaaaataca acatttagat ttgttggaaa     180
aatttaaaaa gtctgacaaa actgtacctt tatagtactc ctttatagga gtcagaggct     240
ggagtcaagt gttaactgtg ttggacttgc ttttcagttt gacagttcat ggtatgccaa     300
cacctaggct gttttttcagt tgccatttat tatcatatgt gctctgctgc ttttcttacg     360
atagagaaac atgt                                                      374
```

<210> 2040
<211> 710
<212> DNA
<213> Homo sapiens

<400> 2040
```
aggagatgaa actagagatt tgtgccaaat tgtgaaaggc cttgactgcc ttgcttcttg      60
ctaaacagtg gaatttatca acccactgag acaaagtcag ttaagatttt tgagccttcc     120
atatatttag ctgcttatat ttaatgtctt gtctttaaaa ataacacgta tgacttgttg     180
tttgcatgct tttgcatata tacttatttg aagttaggtg cttctactga ttgactttga     240
cttttgttc acaaaaatat agggatcttg atttatgact ggaccactta atgtattaat     300
ttgcactgtg ttatatccta aacttttaaa actactcatg actaatgtct ttcaccaaac     360
tgttacctac gaactttcta aagaaatgtg tgacaaaggc gtgattagtt tcatttgctc     420
tgccatttt agctgtatat gtgataaaac atgttttaat acatctcttt ttaacttcga     480
ttttatttgg aatttttgaa tgagctgttt gtttgtttt aagcaaagta attggagtga     540
actttctttg attcccaggt ttttctttt cccctttttt cttttttat tgcattggta     600
gatgcagggc aagaaattta ttactctaaa tttgtgactc agaattttaa aactaaatta     660
acttcataaa tgcgctcact tttttcttaa tgcattacgt ctaacccca                710
```

<210> 2041
<211> 1646
<212> DNA
<213> Homo sapiens

<400> 2041
```
taaaaaaaga aaatacagta agtagccaca taaaccgctt ctagctgggt ccactggtcc      60
ccctgcttct tgtttattaa cggaatctgt tcaggggctc tagggctcag agctttaggg     120
gagtctgagc ccttctccag ccctggggtg atgggtcttg attgatccag gtcaaattct     180
ccacagattt aattctggcc aatgaatatg agaagaaatg agaaggtgga aaggtgtctt     240
agtctacttt ttgctgctat aataaaata ccaatacatg gggtaaatta taatgaagag     300
aaatttatct catggagttc tggaggctgg ggagtcccaa aatcaaggtg ttggcatctg     360
```

```
gtgaggagct tcttgctgtc caccccatgg tggagggtgg aagggcagaa agagagagag    420
ggctggaggc caataggtgg ctgaactcat tttttttatga ggaacccact cccataataa    480
cagcattaat ccactcatga gagcagagcc cccatgaccc aaccatttcc cattaggtcc    540
tacctcccca cacccactgc actggggatc aagtttccaa cacatggaac tttgggagac    600
acattcacga catagcagag gaccactgga gaaaggaagg ttttttaaaga ttttttttttag    660
gacactatgg aagtgatagc cattggacat ggatggtgtt tttgtttttg gcatgggaaa    720
aggcttatac aactctggtc aacttggcaa cactaatcaa aagtcaaaat ctcctttgac    780
cctagggatc ccctactatt aacagtatta tatcttatag aacctaggta tttaggaaag    840
aaaaaaatgt tcaaagatgt attgacattt aataaaagca aataactgga cataacccag    900
ctatccaaat acaggctatc aggaaacact gtgaaggact ttgaaatagg tcttgcccac    960
tgcccccacc cctgcctcca attactgagt gttctgtcta atctagccca cctttctgag    1020
ttgattccct ttcatttcac tgcctttgag ctactttaca attacgtaaa ttaagggaaa    1080
ctgataatgc agatgattct tgttcataga aatgcaaatt gtgaccaatg gaatataact    1140
gattattgtt ctgcaggtat cagccaattt tgccagtttt gtaactacga agcaaactca    1200
tttcagcatt cctgctaggc ttataattat ttgttctttg gattctcctt tgagccaatt    1260
aaagtgtcct actggttctc tcaataatta acaagttaaa tacaatcatc tttaacatgt    1320
tacttttata tttgtatgag tcataatttt aacttctaaa aaaattatcc tttaacaagg    1380
tagttaagta aatttaatgt tcatgtggta taatttactt agcagccctc ttaaaacagt    1440
tataaaaacc atatggcaac agggacaaat actcctgata aaaatggcaa gtggggaaaa    1500
aagcagaaat gcaaaatttg tactacgttg tgattaaagc taaacgttgt aagtgcttag    1560
ggcaagaaat aggaaggaga aaaaaaattg aagttggatt tgtttgttag ggtggtagga    1620
tcctggatta aaaaaaaaaa acaaaa    1646
```

```
<210> 2042
<211> 510
<212> DNA
<213> Homo sapiens

<400> 2042
gaggttcctc ttcaaagact ttcctccctg tctaattaag aataaatagt aacttctctt    60
aggagcaaaa cttattcaaa gacctgtgct aacattctta aatatctgct agccgtaata    120
aagaaatcaa tgtactttat gttcttagct cccacaattt agcctatttg ccctggcaat    180
gcttatactg gtccaagcaa gcattaggtc atagcctgtt cctcttcctt atctgaaggt    240
gtttttacgt ttctcagcat tccacaagtt acttcctcct tcattctcct ctgcctttgc    300
ctcttttaaa aagttctaag ttgctagcca atcaggacaa atacagaatg tgaggtcccg    360
ttccagccaa tggaaactgg acacagcagt aaagtggact tgtcaagtta taaatgaccc    420
tgtctccttt gttcggtgtt ctctcgtggc aaaactgctg gcgagtgtac cctttctgca    480
gaaagtataa aaatgacctt gctgaagaaa    510
```

```
<210> 2043
<211> 1972
<212> DNA
<213> Homo sapiens

<400> 2043
tcacccaaca atgttttttt catgttgatc actttactaa agcgaacaat tggggtttta    60
ccaaaattgt gaaggatttt attcttccat acttatgtct gtgttcaggg tcatacagat    120
tctacttttt ccttttagtt taaggtattc tcttggagat ttaatgtact taaatttgac    180
cacaatttat tgagagcata ttctgtgtca gacattgcac tctgcactag atattcagga    240
atttctaaaa agaatgttaa cattgctgtt acatagtcag ttactgatca cattctttc    300
ctctcaactt ttttcaaaat aggaatctgc ggtatgtttt cacgtatgga gttcaggtca    360
ggcttagggg tccctgacaa tgtgaatagt tttaagctgg gcctcaattc gtggtaccct    420
tatactaatt aacaagccg tggactctag gttccaccaa aaatattttg ttccatcctc    480
tctggtttca gtccatggtg tacagaaaga aaactaagga acttcagccc caaattgtca    540
aattttgcta cttaagaaac agaagattta aatctatcat tttgtcttat attccagagt    600
tgactggttc ctcctgtctt taacttcttg tccttgaagg gtattctaat tttcattcag    660
aaatatgact tctcataggg tttgtgttag atattttcag ggccagatgg atatgatgtt    720
cccatttctg tttttattgtt aaactactat tccttttgag ctgtaatgaa caattcattc    780
tgagaggcaa tatatgtttt cagtaattga cttgaataaa agtaaatgtt aaacatggag    840
```

```
ttactaagtt aatacagtgg gtattagtac taatttgttc aaattaagat agaattctta     900
atttgataaa tagaattctt atattacagc atcagtccaa ttggattgat agtttgtaga     960
aaggtaattt cttacatgag gaaagacagg ttttctttct cttagcaagg tattaatgca    1020
aaaatgacct cttcatttcc taccagcttc cagaagggaa atgctggtta ggaggtaaat    1080
tcaatttact ctacaagcaa acttcacatc tgttatgctg aagtcagagt ttatctttct    1140
tgttatgtgg aacctagaaa tataccatga ggaatactga aaaataaact agcagaaatt    1200
ttgcgtgatg ctgaggattt ttagatggct gcaaaatggg tgaaagtaat ataaacttaa    1260
caaagaatgt tgtcacaact ctctggaact tagtactgtt tttcaactaa caaatggaag    1320
atttgtgaga ctaggtcgac ttaatgtgat ttcaatgcag taattactgt gtggcatggg    1380
catggtaaga gataggcctt ttctagaaat attctcatct ctgttttttt tagttgctct    1440
tacttagatt tatattaact cagcttcaca ttttcatttc tttttatttt attttaaaca    1500
atgagaaaaa tactccacga tgtcactgat ttagttatca gatttgcttt atttctgtat    1560
ataataggta atgtgagtac aggaaatata tctgaaaagg ttacttgtac ctaaatttta    1620
agttagatca tttaaaaatt acttataagt ctcttgagtg ttttatatag tagggcagat    1680
ggaaaaactt atttgatatt catttttggt acctcttagg aaaataattg gaatgtatt     1740
cagttggaaa aaatgttgag aagagtgttt tatataatga ttatttagta aaacattaaa    1800
aataatttct tattctggag gtttatagac atcaaaattg acaaagattc atggattata    1860
catttcatca aggtaccttt aagcgatttt ttaaaaaaaa ttctgactct aacaatgcat    1920
gctcattgta gagcgttaaa aatacaaaaa catgcaaaag aaaaaattaa aa           1972
```

```
<210> 2044
<211> 105
<212> DNA
<213> Homo sapiens
```

```
<400> 2044
tttttttgtat ttttagtaaa gacggggttt caccatgtta gccaggctgg tcttgatctc      60
ctgtcctcgt gatcctcccg ccttggcctc ccaaagtgct gggat                       105
```

```
<210> 2045
<211> 949
<212> DNA
<213> Homo sapiens
```

```
<400> 2045
gtcatgttta agtggggata atgacattgg catacctgct tgctagagtt aatgtgtggg      60
tcatgagata acgaatataa caaatatttg gaaagtact atgttgaaat attttaaaat      120
aaaatttaaa tccctcttca tttagaaagg atttgaggca gctaaatgca gaggtgtaag      180
atggtttttt ggttaggatt gtttctgagc tgtgactctg tagtcacttt cttactcagc      240
cctgccactc agctgtattc ctctgtagct ctgggcagac gactctgaac acggcttcat      300
attggccttc catgagtggg tgaagggcat agtcatctgg cagttttacc tgctgttcta      360
tgcatgtctc tccagcgctt gcttattttc cccttctgca aacattccat tcatgccatg      420
ggcattcagt acagtcctgt aagcaagggt aggggcggca caccaggtgg atttaagcgc      480
aaagacagga cgactgcttt gccacaggcg cctttacagc cagcagtgaa cagttagaca      540
tattcacctt cctctaggtg gaaaacagtc ctcttctcag tagccctctc atgttcttga      600
gacccatttg atataaataa caatgttgca ggaaatttcc tgaaggaact gaaatgaacc      660
atagaaacga gatcattctt ttcctaccac acagctggga ttagactgct tagtttgtac      720
ttgcagcact tttgcagtat gggccgtatt aaaaaaaaaa aacatttaac actcagctat      780
gggtacaaag atagtcactg aaacattatt atttactttt atttatatat ttatttttga      840
gatggagtct cgctctgtcg ccaggctgga gtgcagtggc gcaatctcgg ctcactgcaa      900
cctcagcctc ccaggttcaa gtgattctcc tacctcagcc tcccgagta               949
```

```
<210> 2046
<211> 1359
<212> DNA
<213> Homo sapiens
```

```
<400> 2046
```

```
aattttggtt tttgtttttgt tttgtttttt gagatggggt ctcgctctgt cgcccaggct      60
ggagtgcagt ggcgcaatct cggctcactg caagctccgc ctcctgggtt catgccattc     120
tcctgcctca gcctccagag tagctgggac tacaggcacc caccaccaca cccggctaat     180
tttttgtatt tttagtagag gcggggtttc accgtgttaa ccaggatggt ctcgatctcc     240
tgacctcgtg atctgcccgc ctcggcctcc caaagtgttg ggattacagg cgtgagccac     300
tgcgcccagc caattttggt attttagta gagatggggt ttcaccatgt tgaccaggat      360
ggtctcgatc tcttgacctc atggtccgcc tgcctcggcg tcccaaagtg ctgggattac     420
aggcatgggc cactgcacct ggctgcatta ttattattat tattttattt tgagttaggg     480
tcttgctctg ttgtccaggc tggagcacag gggtgcagtc atagctcact gcaggctcga     540
acctccaaag ttcaagtggt ctttctgccc cagcctcttg agtagctgga actacaggtg     600
cacaccacct ggctaatttt ttattttttg tctagaggca gggtcaccct atgttgccaa     660
ggctgatctt aactcctggg ctcaagcaat cctcctgcct tttcctccca aagttctggg     720
attacagaca tgagcaactg cttctggcct gaagcattaa gagcaaaaag aaagtggtaa     780
tcaccatgta ctgatatgga tatagtacca agatatgtta ttaagtgaat aatgcatgtt     840
acaaaacagt gtgcataata tgatgcattt tgataaataa atttatgtat atatgcacat     900
attgttttct ctggtaggaa agaaaagcat aaacagggtt tctctttgat ggatggagtg     960
gggtagtgag gggagaagtt cttatttttc catttaatac tactccttgg tgtttgaatt    1020
ttacagctgt atacagtatt aagttttttt tttttttttg agacggagtc tcgctctgtc    1080
acccaggctg gagtgcagtg gcacgatctc ggctcactgc aagctctgcc tcccgggttc    1140
acaccattct cctgcctcag cctcccgagt agctgggact acaggcgtcc gccaccatgc    1200
ccggctaatt ttttgtattt ttagtagaga cagggtttca ccgtgttagc caggatggtc    1260
tcaatctcct gacctcatga tccgcccccc tcggcctccc aaagtgttag gattacaggc    1320
gtgagccacc gtgcccggcc agtatgaagt attttttaaa                          1359
```

```
<210>  2047
<211>  294
<212>  DNA
<213>  Homo sapiens

<400>  2047
tcttggcctc ccaaagtgtt aggattacag gtgtgagcta ccactcctga ccccaagaca      60
atatcttaac tgtaaaaatt aaactctacc atatttaaa aagctgagat agtataaatg       120
tttataataa aacataaaac caacattct cacaagtctt tgtaactagt agagactgta      180
gttgttctgt ccagatataa gtgtggtata tcaacttggc acttagcaac attgatattt     240
aatttgttaa atttttgtta ggaagaggtg ttttcagatc tcaggtgtct ttgg           294
```

```
<210>  2048
<211>  12710
<212>  DNA
<213>  Homo sapiens

<400>  2048
cttgccactt tgctgtctac agctccaatc acatccttca ccaggctcaa ggactgtgct      60
agatcttcct gctccacttc attgtcttgg aaggaaagaa taattctgtt ttttatggct     120
ctttttggac aagggcagaa gcaagggaat cctgacttct cactccatat catcttttcc     180
ctttgtgact atgctatcag agggaagcca acacgtcaga gatcatgtgc ctatccttct     240
tgctgtcata agtttgattc taaaaaaagt cagaagtttt caatgatata aataatatgc     300
aatcatatgt tgtgctctga aataaaagga actaaagact tctaggaggg acagtaatag     360
caggaagagc aaccaagttt tttttttttt atttgtttta cttaattttt aatgtactgc     420
cttgtaatct ttaaaataac tacctaggaa cagaattagc caagagagag aaaccagtaa     480
ttactgatta agtgaaaaac agcagcaatt ctagcacttc tgggaataac tagtggaaat     540
tatctcccag cctagtgata acagaatact gttcaggtca ttgaactctg gatggaatca     600
atgtgttccc tttccttctt gctatcatct atcctaagtc tggtaacata acagtccaaa     660
ttttcattca acaaaattca agataaaaca caaggtctct tttagacata ctaaagcatg     720
aaatagcact tccatggggc ttccagtact actggccaca gaggaaacag tccatgacca     780
tacaagaccg agttagaaag gagacttacc tttggtacac tgcaatattc tttggaataa     840
aactgggtac ttggtaatcc gctgagttac aagcaatatg cactctggaa ttccaagcct     900
tctaacaact gaactgctca tcttcttctg caagggagta aacagactgt gaggaatcac     960
atgaaaaagg ctctagtgaa agccgacagg gacacatggc tctcaacaat aacggggatt    1020
```

```
ttcatgtttc ttatcaatac ctttacaaag gcttgaaaac gcttatcctt ggcataaagg   1080
tctttgaagt agtttacaga ctggttatgt tgcccacaaa acttgccata tgtcttcttt   1140
aaacgttctg cattctcacc tgaaaactgc agagaaaaga gaacagaagt tatgccatgg   1200
ggcgccaaac tcataatacc attttgtaaa atgtttccag tctagttgta aaagtcaaga   1260
gcgcttcctc ataaattctc ccaaaagaat gaaatggtgc agcagctttg gaaagcagtc   1320
tggcagttac tcaagaggtt caactttaaa tgggtagact atatggcata tggattaaat   1380
ctcaataaag ctgttataca gatttgaaaa acaacaaaaa attaaagaaa ctttatgtac   1440
tgtgcacacg gaaaatgcaa aatgtattct aacttctatt tgtcataaac agagtaataa   1500
aacaatgaga ttcactagga gtttttcatg agacaatctt aaatatctga ccttgataag   1560
ttagacagac atgacaaaca gccatcatac ctaggtatct gtttgtacta cttacttcag   1620
gccagcagtc ctaataattc tatgaggccc ttaaatcatt cccaaatgtg tgcaatctca   1680
atgattcctc taaaggtatg ttcactttgc actaaatcaa tgaatttctg tatgcagttc   1740
ataaaataca tgctaattat tgatttccat gtactacaaa cctccagagg caacacaaat   1800
tgatccttac caaaaaactg gaaagaagga tcagggtaga ttttcacttc accatttacc   1860
aatggaggag ctgagacaga gggacggtaa gttatctgct catatgacaa agcaaatgcc   1920
ccaaaggttg atcctaccac tggcacacag aacgagcaaa cggatactat gagttaaact   1980
gtgaattcta gcaccaaaga tcttactagg ggttgtacac aagtacaagg aggtacaaat   2040
ggtaatacaa gtcaaagttt gatgaagtac taagttagag aaagtaaaag ttagatgaaa   2100
ccagagagga ggggcagaga gagagaaatg gaaatgccca aggggatgtt tcaggaggaa   2160
aagtcatcac ttgtaggtct taattttgag ctctatctgt tgcagctatc tgtgttcatt   2220
taccgcactg catttgcatt tatttcataa catgcttact tttactccta ggagttccct   2280
gaggcagagg cctaagccat atcccccttt gtagttctac ctggcattta atagatgctc   2340
agtaaatacc tgaaaaatga atgagtgaat gtgctaataa attaatgaag tgaggggtat   2400
gggctcaaga acacaaagga aagacaaaat ttacaattct cagacaaatg ttccaacaat   2460
taagcctctg cttctacaca gcagcagata tttgcccaaa atctttgggg aatttgcatc   2520
tttggggaat ctgcatcttt ggggaaatac ctagtcagat gtacatgtta tatacccctc   2580
tgcctgtaaa ggttatactg gcaatgtgtt tttcaagaag aatattttaa aaagaaacat   2640
taaaatctgt ctatgacaat cacatctaca agtaccaaag taattttagc tgaattttt   2700
ggagtatgac taaaaccata ccacaccttg atgaaagtat caacaataca tattttatta   2760
agcattttac agatagtcac ttattcaact ttctgtgctt cagctggttt ttagacacat   2820
gagatccttc tgatttgagg cagaggggaa agttgaagat ttccaacaca cacacacaca   2880
cacacacaca cacacagagt ttgttttttaa atgttgagct ggggtctctc actctctcgc   2940
ccaggctgga gtacagtggc acgagcatca ccatggctcg ctgcaacttt gaactcctag   3000
gctcaagtga tcctcccacc tcgggctcct gagtggttgg gaccacaagt gtgcactacc   3060
acacctggct catttttttca cttttttttg tagagacagc tcttggtacg ttgccaggct   3120
agtcttgaac acctggcttc aagcaatcca tccgcctcag cctcccgaac tgttgggatt   3180
acaggtgtga gccagtgtgc ccagccccaa atatttaaat aattttcaat tttttttttt   3240
ttgagacaga gtatcactct gtctcccagg ctggagtgca gtggcatgag ctcggctcac   3300
tgcaacttct gcctcccagg ttcaagcgat tcttatatct cagtctccca tatgccacca   3360
cgcctggcta atttttgtat ttttagtaga gacagggttt tatcatgttg gccaggctgg   3420
tcttgaactc ctgacctcaa gtgatccgcc ctcctcatct cccaaagtgc tgggattaca   3480
ggcatgagcc actgtgcctg gccatattaa ttgatttctt aaactatact gtttctgatg   3540
atggcacaga ctctgaggaa gaaaaactaa gttttactga gcatctatca tatgcattag   3600
gtactttata tatacccctcc ctttaacttt ccaaaataac attaggagag aaaccctact   3660
gtctgcattt tacagaaaag gaaatcaagg ctccagagaa attaaataag ttccctgagc   3720
ttacacagat aataaatggt agaaagaaga tgtgaatgca tggctgtgga accccatgac   3780
ttcccttttt cccagtgtat gtaagaacct gagatccttc ccattctcac ctgatttaca   3840
agcacatccc ctatcctctt gatgagaaag ttctttttcac ttttatccac cagagactcc   3900
ttcttccgct ccagaatcct ctggaagaat tggctatgga tactgatcag ctcatccaaa   3960
caggggaaca gcttttctac catctgctgc tcaaaaagca gatccgccat catcccctgg   4020
ctgtacacac cactcatgat cttgagagtg cggacatgat gaaactctgt ctgcatcaac   4080
tctaaaagga ggaaaaagat caagtgtcag gaacactctt ttataagcat tcgccctcag   4140
agatcatctg ctgcagtcgc aaagctagtt tagagcccaa tttgaacctt aaaattgggt   4200
caacagctat ctttccccta aaagtgttct cgttttttgt ttttgttttt ttttaagac   4260
aggttctgct ctgtcaccca ggctgaagtg caggctgaag tcatggctca ttgcagcctc   4320
aacctcctgg gctcaagcga tctttctgct ttagcctctc gagcagctgg ggctgcaggt   4380
acatgccatc acgcctggct gattttgta tttttatag aaatgggggtt tcactatgtt   4440
cccaggctag tcttgaactc tgggctcgag tgatccaccc gcctcagcct cccagagtgc   4500
tgggattaca ggtatgagcc gctgagcctg gtcaagtgtt ttcgtcttat tcctctattt   4560
ttcacgtgtc ctattttctg ataataggta ccccggattc catcagtctt aaattatgac   4620
ttccaaagag gtcttcactg gattcagcac ctgtcgtaac tgactgtata cccagttctc   4680
```

```
agaaatgact tgtgtttagt ctagttttta gtgtaggtaa ggaaaaaaac tgagatatct    4740
ctttctagga ctgctgtata aataagtact cacatataag tacaatgttc agtagaactg    4800
aaaacagaag agtggggcaa aaaggagata ggataccaac aggaccacgt ctctgtacct    4860
taaagttttt aaaggaaatc ttttcaagaa gccacatact aaaaaactga ttttttcatag   4920
tccaacaaat tactgcttaa aaatgctgga caatggaaat caaatataat cagagcaaaa    4980
tgaagactct caccatatat tacttcttgc cgtttgacca catctttctt ttgctgtttt    5040
agaaacttgc tgtctattat ccgactccaa gactctgctt ccagctgttt ggactcaatc    5100
tcaaagtctc ccagtagttg tccttcattc atgtctgtac ctactcctca atatatcaaa    5160
aaatcaatat cagaatcagg tttgtgacct gtaaaataag cctatgttgg actttcctca    5220
agatgatagt tgatttcata agacacatga atacagggga tattcacaga gatcatattc    5280
tagtaccaga aaaaaatcaa tatcctgttc aggagtgaca gactctacat tcgagactta    5340
ggttaacagt aataaacatg acataaatca aacatgatta agacatgact tctatctaca    5400
cgaagttaag aattggaagg gacctggtac cttttcatat ttaagagagc aggcttacaa    5460
ttgctctgtg agctagaact gtacatgtaa aaaagtctaa gggaaggaaa agatttgtac    5520
taaagagtag gcccacatcg aaataatgga catccttcac ttgacagctg ctggatgagt    5580
ctgattacgc agtcatgaca aagcactgga cactttactg acaatttaga gaatcttcac    5640
gggatacaga agaggcaggt actgtcactc cattaagact tatgttctag gtaatgacac    5700
acacacagtc cctacagagg cataaaataa aggccataac ttcctcttac cctcatcagt    5760
aagtgattct gttgactcat tgaccttgct gatttttattt agtgagtctg ttgaatgaga    5820
caggaatttc caggtgtttg acatgttctc atcattgcca actctgggga caaaagaaaa    5880
atacatactg tcaaatacat tctgataacc tatggcttgc attcttaaat gagtacctga    5940
agactctaga atgacaactg gctggaagta ctacagtgac tgaagacaaa ttgcttatgt    6000
cggggccaca gcaacatgca catggcctgg taacaaagtc gggagcattt agtatcactg    6060
gagactcaaa ttctgaggac tttttgagcc tttttaaaga aagtgataag aagcaagggg    6120
aactttcttc catcaaacca tgtacacatt atataagaaa ctttctgttt aaaacttatt    6180
gcctaaccaa tacactgttt tttctgttct ctagataact acagatctag cacttacaat    6240
caactatgtt ctctttggac tttctcaatc ccaactcacc agctagcaca gcaggcaccc    6300
aattgatgtg tgagtagaca caatagcaag aacactttaa agaccaactt ttgaaagtta    6360
caatgcatac aaactttagt aatgttacaa cttttgaaaa gtacactttt ggaaataatg    6420
agaatacaaa gacaaaacaa aacaaaacaa aacaaaaata cctgaaactt tttagaggag    6480
gagaaaacat tagccagcac agaggttagg aattacaaac aaaaggagac ttttgcatcc    6540
tttagttagg aattttgctc caagataggt taaagagata ctctgagtcc tacatttgaa    6600
atggcttatt cacccgacgg gaaggcaggc atcttaccca aaatagtcag caacatcatt    6660
atcagccccc tgctaaccac ttgacagcca aggcctggcc aggagaccag aaaagaaact    6720
cagtgcaaac gagtgagtga gaacctaata gtaataattg gctcagcact cacctccatg    6780
aaactgactt aagtgttaaa aggcaaagat gtaaacaga ggtaagaaga aacaaaacaa    6840
ccaggtttac ttgaacaaca gaaaagcatg acatctgtaa gtggttgcaa cccaaaattc    6900
tgaattaaat caccctttt cctattccta cttattttga tctaaaaaat catcttttta    6960
gaactcagat tcttcaaaag tagggctgat gatatacaaa aagcctacag caaccagcct    7020
gctaagggta tttaaaggag atccttgcga cagaatgacc atcatgacat gcatcagaaa    7080
cataatcccc atcgtccttg tctgcaccaa cccatgacct tatagattta tttcttaaaa    7140
aaaaaaaaa gctttttgtc atatgatgtg attattatgc tctggtcacc tagatgccaa    7200
ctgtgctatc tttaaatatc tccacttacc cagtaatgtt ctgtatggag acacttttgg    7260
agagcgagac actctgctgg gatcgtctat tggcaaatat tggggtggta gcggtttcat    7320
ccaccaggag gactgcggac cgaggacgct ccttgggctg tgaggctgca aaaggaggac    7380
actaactgaa gcatcaccca tccagctcca cctggtactg acccatctga caaataacaa    7440
gcagaagtaa ggcgctttac agtggatttg ccctggaact gtaagtttat ataaaaactc    7500
catggaggag aggacactaa ctgaagcatc acccatccag ctccacctgg tactgaccca    7560
tctgacaaat aacaagcaga agtaaggcgc tttacagtgg atttgccctg gaactgtaag    7620
tttgtataaa aactccatgg aggatagttt ggtgataact attgaaattg taaatgccta    7680
tattcttcga tccagcaatt tcactttag gctatgttta ttttacaaga tatacctgca    7740
tattcgtgaa atgatgttat gtccaaagtt attcaatgca acaccattgg taaaagcaaa    7800
agactgaaaa tgacatgagt atcacaagaa gactggtgaa taagttatac tacaccacac    7860
agcagaatac aatgccactt acaaaaaata aggacacttt ccaagtactg acacagatag    7920
atctatctcc aagatctatt aagggdgagga aaatcaaagt gcagaacaaa gtatataaca    7980
ggctatcttt catgcttaaa agagagaaaa ataatccaag ttgtatttac tttaacaagc    8040
gaactccagg aaaataaaca aaaaaaacta agaagagtgg ttacctctgg ggtgggacag    8100
gcaacgggga taaagaatcc tgtgggagta ttacatattt taatatttaa gctgcaaata    8160
agattgaaag aatttctttt ttttttgaaa tgcagtcttg ttctgtcgcc caggctggag    8220
tgcagtggcg cgatcttggc tcactgcaag ctccgcctcc tgggttcatg ccattctcct    8280
gccgcagcct cccgagtagc tgggattaca ggcacccgcc accatgcctg gctaattttt    8340
```

```
gtatttttaa tagagacggg gtttcactac gttggccaga ctggtctcaa actcctgacc   8400
tcatgatctg cccgcctcgg cctcccaaag tgctgggatt acaggcgtga gccactgcac   8460
ctggccccaa gattgaaaga attttaaggg taaaaggaac ctgagagata actgggagca   8520
gcgttcttta ggaccgttca ccatgaagac atctggagtg cctgttagat atggaatctc   8580
agccccccctt gtcttctagg ggtggaaccc aagagtctac atatcttaca ggctcaagtg   8640
attcttctgc gctccctgct agcgagcata gattttgatg atttcctttta atttacagat   8700
gaggaaaatt taacacttgt ttaacacctg taactacaga tgacccctga acaacatggg   8760
tttgaactac atagatcccc ttatatgtgg aatttcttct gcctctgcca cccttgagac   8820
agcaagacca acccttcttt tcttcctctt ccttcttggt ctactcaatg tgaaaacgac   8880
aaggatgaag acctttatga tgatctactt ccacttaaca aacagtaaat atattttctc   8940
ttccttatga tttttaaaat aacatttttt cctttggctt aatttattgt aagaatacag   9000
tatataatac acataacaaa caaaatgcat taattgactg tttatgttat tggtaaggct   9060
tctggtcaac agtaggctat tagtaggtaa gttctggggg agtcaaaaag ttttatgtgg   9120
attttttgact gcatgggggt ggggctggca cacctatcat ccgagttatt caagggtcaa   9180
ttctaaattg ttctcatagt gcatatttct cattaacatg actaaagagg aaactggaga   9240
tctaatttgc taaagtggtc acgctggcac ttgggaacat ttttccctgg taatggactt   9300
gctgtcccat tcacaggttg cattatctgt ccatccccag gagtgtcaag aggtgaagga   9360
aataagactg gggtggtagt tatgacttca cagtatttca ggatgtcttt gactcaatga   9420
gcattaatat aatcattaat ttccaattca aattctattt acaagatgat gacacaataa   9480
aatagcagaa acccgacatt ctaaaacctg accagattct agctgcagaa agtacacaag   9540
gattatggga tgtggcccta cccctctgcc cccaccccca ccccacccca agagaaaaag   9600
agcaagtggg tagaaaagag aatgagctta agagttaaag ggcctggagc ataacctgaa   9660
tgtttctgaa gggaggtcac tgagcggata aaatctgatg gaggaagaaa acactagttc   9720
ttgaagaatt gcaaggatgt ggatgggtca gaagaaaaaa gagaggacaa ttctgatgag   9780
aagaaccatg gaatgaaggc agaagtaatt atgtagtatt aatgtaaaag ggagacacag   9840
agtagaagat gaagcaggta gaaggaatca gtgaaagggc tggaaaagca gaatgatgtt   9900
aggcagagct cataataact tgtatctaaa agccagcata gggggggaaga aaataacagc   9960
tttccttatt tgtaaccaat ccatattcta cccagtaag tgactcaata ttgctgtttc   10020
cttatttgtg atgatcatag cagtgaaagc taacacttaa ggaatgttta ctgctaagta   10080
ctttataggt atgatctgat ttaaacctga ctaccaccct atgatactat tatcgtcccc   10140
ttttacagag gaagaaaatg aggcacagag aggtttggta atgtccagtt acacagctct   10200
taagcagtgg tgtcagactt gaatccatac aattagaatt cacaatctgt actctacacc   10260
actatgttgc ctcagtggag tacaacagga ataagaatat ttgtgggagg gccaggtaca   10320
gtggttcacg cctataatcc cagcactttg ggaggccaag acagacagat gccttgaggt   10380
caaaaattcg acaccagcct agccaacatg gtgaaaccct atctctagta aaaatacaaa   10440
aattagctgg gtgtggtggc tcacacctgt aatcccagct acttgggagg ctgaggcagg   10500
agaactgctt gaacccagaa ggcggatgtt gcagtgagtg gagattgtgc cactgcactc   10560
cagcctgggt gacagagtaa gactcttgtc tcaaggaaaa aaaaaaaat acttgtgggg   10620
atcaaaggta atactcatga accttgcaca taataggcat ttgttttttaa gaaagacatg   10680
aaaataagaa agaaacagaa cttctgaaac aacagataat gtcacaagaa aaaaagcatt   10740
ttaggaagct agacataaaa agtatgtgga atgggtaaga tcacagacta aaagtgggta   10800
tcaacctgga gaagctcctc ttctagtcat ctacgtgtga agatggataa aaaccagatt   10860
aaatatatct aaagggaatc actctcttct gggagtgtag actagtatag ccattcagga   10920
gctatctgga agtactcaga gaaactgggc ataaaggagc ggttttcaag cttgagtggg   10980
catcagaatc acctggagga tctattaaaa cacagaccag gctgggtgcg gtggctcatg   11040
cctgttatct cagcactttg ggaggccaag gcatgaggac tgcttgaggc caggagtttg   11100
agacgagcct gggcaacgta gtgagacccc gtctctacaa aaaaattaaa aaatcagcca   11160
ggcatagcgg cgcacacctg gagtgccagc aactcaggaa tctgaggtga ggggatttct   11220
tgagcccagg agtttgaggt tacagtgagc tatgatcaca ccactgcact ccagcctggg   11280
tgacaaagca agaccctgtc tctattaaac acactcccac acaccacaaa aaaacacaga   11340
atgctggtcc catcccacgg tttgtgattc acagatcagg gtggggccca agaatcttta   11400
cttctaaaaa actacatttt caagaacact gcctgggaaa agtctcacag aggctcccat   11460
ggagccagct aagaagatat taatcattgc attatttatg gtagtagctg gaagcaaagt   11520
aaatattctg tctctagggg aactttaaat gtgaaatatg cttatgaaag aataccatgc   11580
catagtctga aacaatagcg tacaataaca tgcatatctc aaaacaatat tgagtgaaaa   11640
aaataagcag aacatataag cataagtcat attatctaat ttaaattcac acaaaataat   11700
acatttttttt caaagtatac atatgtctaa aaatatggca gattagaagg acatacatta   11760
aatatactaa agtaggaatg agacagggaa tggggagtga aaagggaaaa gtatcagtaa   11820
aaccaaagtg gagtcttcta tgcactggtg aaaatggttt gatgtgaatg gaagagtgtg   11880
atttactcaa ttctgaataa catttgaggt ccttagaaat aataaaaaaa aagaactatt   11940
ttctataact tctcagttta gaaagaagtt taggccgggc atggtggtgc gtgcctgtaa   12000
```

2100

```
tcccagctat tggggaggct gaggcaggag aatcgcttga accagggagg tggaggttgc    12060
agtgagccga gattgtgcta ttgtactcca gcctgggcga cagagagaga ctccgtctca    12120
aaaaaataat aaaaaaaaaa aagtttaaca agccagatct catttgattt gtatgattgt    12180
aaggcactaa aaacaagtct tttaattctc aactactatt aaagaggaag ttgagatgcg    12240
cagggggtcac ttgcttaaac acacagggca aaggtgctgc ctttaagcta atacacagac   12300
tgttttagag accttccaag agggtttgat ggtataatgt tatatgggta aaggaatctg    12360
caggataaaa cagcagcctt ctctcactta ccacaaaata ggtattcata tcttgactat    12420
gaataataac tgaatattac aacagcattt ttacattcag aaccagaaag tcagaaaggg    12480
aattgagagg tgggctgagc tacttacgct tgtttctcat aatgaccgtg ggcagtgatg    12540
atgtgtcatg tgcctgaagg ctcccttggg gctgctaaag agaaagaaag taagtccatt    12600
gacaattcac ctctgacaag ccctgagaag ccgagtagga agggagcaag cagttcagct    12660
tcctttccca ctctgctttt tgcactgccc taagcaccct gtgtcccagc               12710
```

<210> 2049
<211> 8243
<212> DNA
<213> Homo sapiens

<400> 2049
```
cgagtgatcc acccgcctca gcctcccaga gtgctgggat tacaggtatg agccgctgag        60
cctggtcaag tgttttcatc ttattcctct attttttcacg tgtcctatttt tctgataata     120
ggtaccccgg attccatcag tcttaaatta tgacttccaa agaggtcttc actggattca       180
gcacctgtcg taactgactg tatacccagt tctcagaaat gacttgtgtt tagtctagtt       240
tttagtgtag gtaaggaaca aaactgagat atctctttct aggactgctg tataaataag       300
tactcacata taagtacaat gttcagtaga actgaaaaca gaagagtggg gcaaaaagga       360
gataggatac caacaggacc acgtctctgt accttaaagt ttttaaagga aatcttttca       420
agaagccaca tactaaaaaa ctgattttc atagtccaac aaattactgc ttaaaaatgc        480
tggacaatgg aaatcaaata taatcagagc aaaatgaaga ctctcaccat atattacttc       540
ttgccgtttg accacatctt tcttttgctg ttttagaaac ttgctgtcta ttatccgact       600
ccaagactct gttccagctg tttggactca atctcaaagt ctcccagtag ttgtccttca       660
ttcatgtctg tacctactcc tcaatatatc aaaaaatcaa tatcagaatc aggtttgtga       720
cctgtaaaat aagcctatgt tggactttcc tcaagatgat agttgatttt ataagacaca       780
tgaatacagg ggatattcac agagatcata ttctagtacc agaaaaaaat caatatcctg       840
ttcaggagtg acagactcta cattcgagac ttaggttaac agtaataaac atgacataaa       900
tcaaacatga ttaagacatg acttctatct acacgaagtt aagaattgga agggacctgg       960
tacctttttca tatttaagag agcaggctta caattgctct gtgagctaga actgtacatg      1020
taaaaaagtc taagggaagg aaaagatttg tactaaagag taggcccaca tcgaaataaa      1080
tgacatcctt cacttgacag ctgctggatg agtctgatta cgcagtcatg acaaagcact      1140
ggcactttta ctgacaattt agagaatctt cacgggatac agaagaggca ggtactgtca      1200
ctccattaag acttatgttc taggtaatga cacacacaca gtccctacag aggcataaaa      1260
taaaggccat aacttcctct taccctcatc agtaagtgat tctgttgact cattgacctt      1320
gctgatttta tttagtgagt ctgttgaatg agacaggaat ttccaggtgt ttgacatgtt      1380
ctcatcattg ccaactctgg ggacaaaaga aaaatacata ctgtcaaata cattctgata      1440
acctatggct tgcattctta aatgagtacc tgaagactct agaatgacaa ctggctggaa      1500
gtactacagt gactgaagac aaattgctta tgtcggggcc acagcaacat gcacatggcc      1560
tggtaacaaa gtcgggagca tttagtatca ctggagactc aaattctgag gacttttttga     1620
gccttttttaa agaaagtgat aagaagcaag gggaactttc ttccatcaaa ccatgtacac      1680
attatataag aaactttctg tttaaaactt attgcctaac caatacactg ttttttctgt       1740
tctctagata actacagatc tagcacttac aatcaactat gttctctttg gactttctca       1800
atcccaactc accagctagc acagcaggca cccaattgat gtgtgagtag acacaatagc       1860
aagaacactt taaagaccaa cttttgaaag ttacaatgca tacaaacttt agtaatgtta       1920
caacttttga aaagtacact tttggaaata atgagaatac aaagacaaaa caaaacaaaa       1980
caaaacaaaa atacctgaaa cttttttagag gaggagaaaa cattagccag cacagaggtt      2040
aggaattaca aacaaaagga gacttttgca tcctttagtt aggaatttttg ctccaagata      2100
ggttaaagag atactctgag tcctacattt gaaatggctt attcacccga cgggaaggca      2160
ggcatcttac ccaaaatagt cagcaacatc attatcagcc ccctgctaac cacttgacag      2220
ccaaggcctg gccaggagac cagaaaagaa actcagtgca aacgagtgag tgagaaccta      2280
atagtaataa ttggctcagc actcacctcc atgaaactga cttaagtgtt aaaaggcaaa      2340
gatgtaaaac agaggtaaga agaaacaaaa caaccaggtt tacttgaaca acagaaaagc      2400
atgacatctg taagtggttg caacccaaaa ttctgaatta aatcacccttt tttcctattc     2460
```

```
ctacttattt tgatctaaaa aatcatcttt ttagaactca gattcttcaa aagtagggct    2520
gatgatatac aaaaagccta cagcaaccag cctgctaagg gtatttaaag gagatccttg    2580
cgacagaatg accatcatga catgcatcag aaacataatc cccatcgtcc ttgtctgcac    2640
caacccatga ccttatagat ttatttctta aaaaaaaaaa aaagcttttt gtcatatgat    2700
gtgattatta tgctctggtc acctagatgc caactgtgct atctttaaat atctccactt    2760
acccagtaat gttctgtatg gagacacttt tggagagcga gacactctgc tgggatcgtc    2820
tattggcaaa tattggggtg gtagcggttt catccaccag gaggactgcg gaccgaggac    2880
gctccttggg ctgtgaggct gcaaaaggag gacactaact gaagcatcac ccatccagct    2940
ccacctggta ctgacccatc tgacaaataa caagcagaag taaggcgctt tacagtggat    3000
ttgccctgga actgtaagtt tatataaaaa ctccatggag gagaggacac taactgaagc    3060
atcacccatc cagctccacc tggtactgac ccatctgaca aataacaagc agaagtaagg    3120
cgctttacag tggatttgcc ctggaactgt aagtttgtat aaaaactcca tggaggatag    3180
tttggtgata actattgaaa ttgtaaatgc ctatattctt cgatccagca atttcacttt    3240
taggctatgt ttatttaca agatatacct gcatattcgt gaaatgatgt tatgtccaaa    3300
gttattcaat gcaacaccat tggtaaaagc aaaagactga aaatgacatg agtatcacaa    3360
gaagactggt gaataagtta tactacacca cacagcagaa tacaatgcca cttacaaaaa    3420
ataaggacac tttccaagta ctgacacaga tagatctatc tccaagatct attaagggga    3480
ggaaaatcaa agtgcagaac aaagtatata acaggctatc tttcatgctt aaaagaaaga    3540
aaaataatcc aagttgtatt tactttaaca agcgaactcc aggaaaataa acaaaaaaaa    3600
ctaagaagag tggttacctc tggggtggga taggcaacgg ggataaagaa tcctgtggga    3660
gtattacata ttttaatatt taagctgcaa ataagattga aagaatttct ttttttttg    3720
aaatgcagtc ttgttctgtc gcccaggctg gagtgcagtg gcgcgatctt ggctcactgc    3780
aagctccgcc tcctgggttc atgccattct cctgccgcag cctcccgagt agctgggatt    3840
acaggcaccc gccaccatgc ctggctaatt tttgtatttt taatagagac ggggtttcac    3900
tacgttggcc agactggtct caaactcctg acctcatgat ctgcccgcct cggcctccca    3960
aagtgctggg attacaggtg tgagccactg cacctggccc caagattgaa agaattttaa    4020
gggtaaaagg aacctgagag ataactggga gcagcgttct ttaggaccgt tcaccatgaa    4080
gacatctgga gtgcctgtta gatatggaat ctcagccccc cttgtcttct aggggtggaa    4140
cccaagagtc tacatatctt acaggctcaa gtgattcttc tgcgctccct gctagcgagc    4200
atagattttg atgatttcct ttaatttaca gatgaggaaa atttaacact tgtttaacac    4260
ctgtaactac agatgaccct tgaacaacat gggtttgaac tacatagatc cccttatatg    4320
tggaatttct tctgcctctg ccacccttga gacagcaaga ccaacccttc ttttcttcct    4380
cttccttctt ggtctactca atgtgaaaac gacaaggatg aagacctta tgatgatcta     4440
cttccactta acaaacagta aatatatttt ctcttcctta tgatttttaa aataacattt    4500
tttcctttgg cttaatttat tgtaagaata cagtatataa tacacataac aaacaaaatg    4560
cattaattga ctgtttatgt tattggtaag gcttctggtc aacagtaggc tattagtagg    4620
taagttctgg gggagtcaaa aagtttatg tggattttg actgcatggg ggtgggctg      4680
gcacacctat catccgagtt attcaagggt caattctaat ttgttctcat agtgcatatt    4740
tctcattaac atgactaaag aggaaactgg agatctaatt tgctaaagtg tcacgctgg     4800
cacttgggaa catttttccc tggtaatgga cttgctgtcc cattcacagg ttgcattatc    4860
tgtccatccc caggagtgtc aagaggtgaa ggaaataaga ctggggtggt agttatgact    4920
tcacagtatt tcaggatgtc tttgactcaa tgagcattaa tataatcatt aatttccaat    4980
tcaaattcta tttacaagat gatgacacaa taaaatagca gaaacccgac attctaaaac    5040
ctgaccagat tctagctgca gaaagtacac aaggattatg ggatgtggcc ctacccctct    5100
gcccccaccc ccaccccac ccaagagaaa aagagcaagt gggtagaaaa gagaatgagc      5160
ttaagagtta aagggcctgg agcataacct gaatgtttct gaagggaggt cactgagcgg    5220
ataaaatctg atggaggaag aaaacactag ttcttgaaga attgcaagga tgtggatggg    5280
tcagaagaaa aaagagagga caattctgat gagaagaacc atggaatgaa ggcagaagta    5340
attatgtagt attaatgtaa aagggagaca cagagtagaa gatgaagcag gtagaaggaa    5400
tcagtgaaag ggctggaaaa gcagaatgat gttaggcaga gctcataata acttgtatct    5460
aaaagccagc ataggggga agaaaataac agctttcctt atttgtaacc aatccatatt      5520
ctacccaagt aagtgactca atattgctgt ttccttattt gtgatgatca tagcagtgaa    5580
agctaacact taaggaatgt ttactgctaa gtactttata ggtatgatct gatttaaacc    5640
tgactaccac cctatgatac tattatcgtc ccctttttaca gaggaagaaa atgaggcaca    5700
gagaggtttg gtaatgtcca gttacacagc tcttaagcag tggtgtcaga cttgaatcca    5760
tacaattaga attcacaatc tgtactctac accactatgt tgcctcagtg gagtacaaca    5820
ggaataagaa tatttgtggg agggccaggt acagtggttc acgcctataa tcccagcact    5880
ttgggaggcc aagacagaca gatgccttga ggtcaaaaat tcgacaccag cctagccaac    5940
atggtgaaac cctatctcta gtaaaaatac aaaaattagc tgggtgtggt ggctcacacc    6000
tgtaatccca gctacttggg aggctgaggc aggagaactg cttgaaccca gaaggcggat    6060
gttgcagtga gtggagattg tgccactgca ctccagcctg ggtgacagag taagactctt    6120
```

```
gtctcaagga aaaaaaaaaa aatacttgtg gggatcaaag gtaatactca tgaaccttgc    6180
acataatagg catttgtttt taagaaagac atgaaaataa gaaagaaaac agacttctga    6240
aacaacagat aatgtcacaa gaaaaaaagc attttaggaa gctagacata aaaagtatgt    6300
ggaatgggta agatcacaga ctaaaagtgg gtatcaacct ggagaagctc ctcttctagt    6360
catctacgtg tgaagatgga taaaaaccag attaaatata tctaaaggga atcactctct    6420
tctgggagtg tagactagta tagccattca ggagctatct ggaagtactc agagaaactg    6480
ggcataaagg agcggttttc aagcttgagt gggcatcaga atcacctgga ggatctatta    6540
aaacacagac caggctgggt gcggtggctc atgcctgtta tctcagcact ttgggaggcc    6600
aaggcatgag gactgcttga ggccaggagt ttgagacgag cctgggcaac gtagtgagac    6660
cccgtctcta caaaaaaatt aaaaaatcag ccaggcatag cggcgcacac ctggagtgcc    6720
agcaactcag gaatctgagg tgaggggatt tcttgagccc aggagtttga ggttacagtg    6780
agctatgatc acaccactgc actccagcct gggtgacaaa gcaagaccct gtctctatta    6840
aacacactcc cacacaccac aaaaaaacac agaatgctgg tcccatccca cggtttgtga    6900
ttcacagatc agggtggggc ccaagaatct ttacttctaa aaaactacat tttcaagaac    6960
actgcctggg gaaagtctca cagaggctcc catggagcca gctaagaaga tattaatcat    7020
tgcattattt atggtagtag ctggaagcaa agtaaatatt ctgtctctag gggaacttta    7080
aatgtgaaat atgcttatga aagaatacca tgccatagtc tgaaacaata gcgtacaata    7140
acatgcatat ctcaaaacaa tattgagtga aaaaaataag cagaacatat aagcataagt    7200
catattatct aatttaaatt cacacaaaat aatacatttt tttcaaagta tacatatgtc    7260
taaaaatatg gcagattaga aggacataca ttaaatatac taaagtagga atgagacagg    7320
gaatggggag tgaaaaggga aaagtatcag taaaaccaaa gtggagtctt ctatgcactg    7380
gtgaaaatgg tttgatgtga atggaagagt gtgatttact caattctgaa taacatttga    7440
ggtccttaga aataataaaa aaaagaact attttctata acttctcagt ttagaaagaa    7500
gtttaggccg ggcatggtgg tgcgtgcctg taatcccagc tattggggag gctgaggcag    7560
gagaatcgct tgaaccaggg aggtggaggt tgcagtgagc cgagattgtg ctattgtact    7620
ccagcctggg cgacagagag agactccgtc tcaaaaaaat aataaaaaaa aaaagtttta    7680
acaagccaga tctcatttga tttgtatgat tgtaaggcac taaaaacaag tcttttaatt    7740
ctcaactact attaaagagg aagttgagat gcgcaggggt cacttgctta aacacacagg    7800
gcaaaggtgc tgcctttaag ctaatacaca gactgtttta gagaccttcc aagagggttt    7860
gatggtataa tgttatatgg gtaaaggaat ctgcaggata aaacagcagc cttctctcac    7920
ttaccacaaa ataggtattc atatcttgac tatgaataat aactgaatat tacaacagca    7980
tttttacatt cagaaccaga aagtcagaaa gggaattgag aggtgggctg agctacttac    8040
gcttgtttct cataatgacc gtgggcagtg atgatgtgtc atgtgcctga aggctccctt    8100
tgggctgcta aagagaaaga aagtaagtcc attgacaatt cacctctgac aagccctgag    8160
aagccgagta ggaagggagc aagcagttca gcttcctttc ccactctgct ttttgcactg    8220
ccctaagcac cctgtgtccc agc                                          8243
```

<210> 2050
<211> 184
<212> DNA
<213> Homo sapiens

<400> 2050
```
ttttctcacc ttcagaagca tggcattctt cccctttaag acgatttaag ggttgcctcc      60
ttggtaaagc catctatagc ttctctcctc tcctcaccca aggcagtgac tggcaccttt     120
ctcatttata gtaactgtcc gtcttcccca gtagattgct ggtgccttaa gggcagcatc     180
tttt                                                                   184
```

<210> 2051
<211> 184
<212> DNA
<213> Homo sapiens

<400> 2051
```
ttttctcacc ttcagaagca tggcattctt cccctttaag acgatttaag ggttgcctcc      60
ttggtaaagc catctatagc ttctctcctc tcctcaccca aggcagtgac tggcaccttt     120
ctcatttata gtaactgtcc gtcttcccca gtagattgct ggtgccttaa gggcagcatc     180
tttt                                                                   184
```

2103

```
<210> 2052
<211> 2853
<212> DNA
<213> Homo sapiens

<400> 2052
agtctgtgtc ttttaacggg ggcatttagc ctgtttacat ttaaggttaa tattgttatg        60
tgtgagtttg atcctgtcat tatgatgcta gctggttatt ttgcccgtta gttgatgcag       120
attcttcata atgtcaatgg cctttacaat ttggtatgtt tttgcagtgg ctggtactgc       180
ttttttccttt ttgtatttag tgcttccttc agaagatctt gtaaggcagg actggtggtg      240
acaaaatctt tcagcatttg cttttctgtg aaggatttta tttctccttc acttatgaag       300
cttagtttgg ctggctctga aattctgggt tgaaaattct tttctttaag aatgttgtgc       360
caggcaccgt ggctcatgtg tgtaatccca gcactttggg aggctgaggc tggcagatca       420
cctgaggtca ggagttcaag accagcctga ccaacatggg aaaactccat ctctactaaa       480
aatacaaaat tagccagctg tggtggcaca tgcctgtaat cccaactact gggaggctg       540
aggcaggaga atcgcttgaa cccaggaggt caggttgcgg tgagccgaga tcttgccatc       600
atactccagc ctgggcaaca agagtgaaac tccatctcac acaaaaaaaa gaatgttgaa       660
tattggcccg cactctcttc tggcttgtag tgtttccgca gagaaatcca ctgttagtct       720
gatgggcttc cctttgtgga taacccgacc tttctctctg ctgcccttta acgttttttt       780
cattcctttc aaccttggtg aatctgatga ttacgtgtct tggggctgct cttctcgaga       840
agtatctttg tggtggtctc tgtctttcct gaacttgaat gttggtctgt cttgctaggt       900
tggggaagtt ctcctggata atatcctgaa gagtgttttc caacttggtt ccattctccc       960
catcattttc aggtacacca gtcaaacata ggtttggtct tctcacatag tcccatattt      1020
cttggaggct ttgttcattc cttttcattc attttttctct aatcttgtct tcatgcttta     1080
tttcattaag ttgatcttca atctctgata tccttttttc cacttgatcg atttggctat      1140
tgatacttgt gtatgcttca caaagttctt gtgctgtgtt tttcagctcc atcaggtcat      1200
tgatgatttt ctctagactg gttattctag ttagcaattc ttctaacctt ctttcaaggt      1260
tcttagtttc cttgcagtgg gttagaatgt gctcctttag ctcggaggag ttacccacct      1320
tccgaagcct acttctgtca attcgtcaaa ctcattttcc atccagtttt gtttccttgc      1380
tggcgaggag ttatgatccc ttggaggaga agaggtgttc tggttttttgg aattttcagc     1440
cttcttgtgc tggttttttcc tcatctccct ggatttatct gcctttggtc tttgatgttg     1500
gtgacctttg gatggggttt ttgtgtggac atcgtttttg ttgatgttga tgctattcct      1560
ttctgttttt tagttttttct cctaacaggc aggcttctct cctgcaggcc tgctggagtt     1620
tgctggaggt ccactccaga ccctgtttgc ctgagtatca ctagcagaca ctgcagaaca      1680
gcaaagattg ctgcctgctc cttcctctgg aagtttcgtc ccagaggggc acccgccaga      1740
tgctagtgga gctctcctgt atgaggtgtc tgttgacccc tgctgggagg tgtctcccag      1800
tcaggaggca caggggtcag ggacccactt gaggaggcag tctgtccctt agcagagttt      1860
gagtgctgtg ctgggagatt cgctgctctc ttcagagctg gcaggcagga acatttacgt      1920
ctgctgaagc tgcacccaca gccgcctctt ccgccaggtc ctctgtccca gagaggtggg      1980
agttttatct gttagcccct gactggggct gctgcctttc tttcagagat gccctgtcca      2040
gagaggagga atctagagag gcagtctggc tatggcagct ttgcagagct gtggtgggct      2100
ctgcccaatt cgaacttccc agaagctttg tttatactgt gaggggaaaa ccacctactc      2160
aagcctcagt aatggtggac gcttctcccc acaccaagct tgagagtccc aggtcgactt      2220
cagactgctg tgctggcagc aagaatttca agccagtgga ttttagcttg ctgggctctg      2280
tggcggtggg atccactgat ccacttggct ccctggcttc agttcccttt ccaggagagt      2340
gaacagttct gtcgctggcc ttccaggtgt cactggggta tggaaaaaaa aaaaaaaaaa      2400
aaaaaacct tctgcagcta gcttggtgtc tgcctaaatg gctgccctgt tttgcgcttg       2460
aaacccaggg ccctggtagt gtcagcactc gagggaatct cctggtctgt gggttgtaaa      2520
gaccatggga aaagcatagt atctgggttg gaatgcacca ttcctcattg cacagtccct      2580
catggcttcc cctttggtggg ggaggttgtt ttctcacccc ttgagcttac cgtgtgaggt     2640
gatgcacccc ccctgctttg gctcgtgctc tgtgggctgc acccactgtc taacctgtac      2700
caaagagatg agccaggtac cttagttgga aatgcagaaa tcacccactt tctgcattga      2760
tctcactggg agctgcagac ctgagctgtt cctgttaggc catcttgcca gccactcata      2820
ttttactttt aagtgattag gttgtttggg aga                                   2853


<210> 2053
<211> 2853
<212> DNA
<213> Homo sapiens
```

2104

```
<400> 2053
agtctgtgtc ttttaacggg ggcatttagc ctgtttacat ttaaggttaa tattgttatg      60
tgtgagtttg atcctgtcat tatgatgcta gctggttatt ttgcccgtta gttgatgcag     120
attcttcata atgtcaatgg cctttacaat ttggtatgtt tttgcagtgg ctggtactgc     180
ttttttccttt ttgtatttag tgcttccttc agaagatctt gtaaggcagg actggtggtg     240
acaaaatctt tcagcatttg cttttctgtg aaggatttta tttctccttc acttatgaag     300
cttagtttgg ctggctctga aattctgggt tgaaaattct tttctttaag aatgttgtgc     360
caggcaccgt ggctcatgtg tgtaatccca gcactttggg aggctgaggc tggcagatca     420
cctgaggtca ggagttcaag accagcctga ccaacatggg aaaactccat ctctactaaa     480
aatacaaaat tagccagctg tggtggcaca tgcctgtaat cccaactact tgggaggctg     540
aggcaggaga atcgcttgaa cccaggaggt caggttgcgg tgagccgaga tcttgccatc     600
atactccagc ctgggcaaca agagtgaaac tccatctcac acaaaaaaaa gaatgttgaa     660
tattggcccg cactctcttc tggcttgtag tgtttccgca gagaaatcca ctgttagtct     720
gatgggcttc cctttgtgga taacccgacc tttctctctg gctgcccttta acgttttttt     780
cattcctttc aaccttggtg aatctgatga ttacgtgtct tggggctgct cttctcgaga     840
agtatctttg tggtggtctc tgtctttcct gaacttgaat gttggtctgt cttgctaggt     900
tggggaagtt ctcctggata atatcctgaa gagtgttttc caacttggtt ccattctccc     960
catcattttc aggtacacca gtcaaacata ggtttggtct tctcacatag tcccatattt    1020
cttggaggct ttgttcattc cttttcattc atttttctct aatcttgtct tcatgcttta    1080
tttcattaag ttgatcttca atctctgata tccttttttc cacttgatcg atttggctat    1140
tgatacttgt gtatgcttca caaagttctt gtgctgtgtt tttcagctcc atcaggtcat    1200
tgatgatttt ctctagactg gttattctag ttagcaattc ttctaacctt ctttcaaggt    1260
tcttagtttc cttgcagtgg gttagaatgt gctcctttag ctcggaggag ttacccacct    1320
tccgaagcct acttctgtca attcgtcaaa ctcattttcc atccagtttt gtttccttgc    1380
tggcgaggag ttatgatccc ttggaggaga agaggtgttc tggttttttgg aattttcagc    1440
cttcttgtgc tggtttttcc tcatctccct ggatttatct gcctttggtc tttgatgttg    1500
gtgacctttg gatggggttt ttgtgtggac atcgttttttg ttgatgttga tgctattcct    1560
ttctgttttt tagttttttct cctaacaggc aggcttctct cctgcaggcc tgctggagtt    1620
tgctggaggt ccactccaga ccctgtttgc ctgagtatca ctagcagaca ctgcagaaca    1680
gcaaagattg ctgcctgctc cttcctctgg aagtttcgtc ccagaggggc acccgccaga    1740
tgctagtgga gctctcctgt atgaggtgtc tgttgacccc tgctgggagg tgtctcccag    1800
tcaggaggca caggggtcag ggacccactt gaggaggcag tctgtccctt agcagagttt    1860
gagtgctgtg ctgggagatt cgctgctctc ttcagagctg gcaggcagga acatttacgt    1920
ctgctgaagc tgcacccaca gccgcctctt ccgccaggtc ctctgtccca gagaggtggg    1980
agttttatct gttagcccct gactggggct gctgcctttc tttcagagat gccctgtcca    2040
gagaggagga atctagagag gcagtctggc tatggcagct ttgcagagct gtggtgggct    2100
ctgcccaatt cgaacttccc agaagctttg tttatactgt gaggggaaaa ccacctactc    2160
aagcctcagt aatggtggac gcttctcccc acaccaagct tgagagtccc aggtcgactt    2220
cagactgctg tgctggcagc aagaatttca agccagtgga ttttagcttg ctgggctctg    2280
tggcggtggg atccactgat ccacttggct ccctggcttc agttcccttt ccaggagagt    2340
gaacagttct gtcgctggcc ttccaggtgt cactggggta tggaaaaaaa aaaaaaaaaa    2400
aaaaaacct tctgcagcta gcttggtgtc tgcctaaatg gctgccctgt tttgcgcttg    2460
aaacccaggg ccctggtagt gtcagcactc gagggaatct cctggtctgt gggttgtaaa    2520
gaccatggga aaagcatagt atctgggttg gaatgcacca ttcctcattg cacagtccct    2580
catggcttcc ctttggtggg ggaggttgtt ttctcacccc ttgagcttac cgtgtgaggt    2640
gatgcacccc ccctgctttg gctcgtgctc tgtgggctgc acccactgtc taacctgtac    2700
caaagagatg agccaggtac cttagttgga aatgcagaaa tcacccactt tctgcattga    2760
tctcactggg agctgcagac ctgagctgtt cctgttaggc catcttgcca gccactcata    2820
ttttactttt aagtgattag gttgtttggg aga                                 2853


<210> 2054
<211> 421
<212> DNA
<213> Homo sapiens

<400> 2054
tgaggagtgt tttacttcca attctgtggt caattttaga ataagtgtga tgtggtgctg      60
agaagaatgt atattctgtt gatttggggt ggagagttct gtagatgtct attaggtctg     120
ctttgtccag agctgagttc aagtcctgaa tatccttgtt aattttctgt ctcgttgatc     180
```

2105

```
tgtctaatat tgacagtggg gtgttaaagt ctcctactat taattgggtg ggagtctaag        240
tctctttgta ggtctctaag aacttgctta tgaattgggt gcttctgtat agggtgccta        300
tatatttagg gtagttagct cttcttgttg cattgaacct tttaccatta tgtaatgccc        360
ttctttgtct tttttgatct tggttggttt aaagtctgtt ttatcagagg ctaggattgc        420
a                                                                        421
```

<210> 2055
<211> 340
<212> DNA
<213> Homo sapiens

<400> 2055

```
aatttcttgt gtatatgcat cttttacata taaaggctgt tttaaaaatg agttgctgct         60
ttatagtttc ttctttagaa acatataaga ttaaagataa aagaaataga atagggaaat        120
agcctagcta tagaaacagc acttttaaat ttcatatgta cagtgattta ttatttgcaa        180
atcatctact tttttaaaagt atgatacttt attatttgca aattatttaa tttttaaaag        240
tgatttttgt gggaggtcag agttggatgg agaagggtca ttttcatttt tgattagagg        300
attcttgtaa tgacctgatg aaaactgctc tgagggcatc                             340
```

<210> 2056
<211> 340
<212> DNA
<213> Homo sapiens

<400> 2056

```
aatttcttgt gtatatgcat cttttacata taaaggctgt tttaaaaatg agttgctgct         60
ttatagtttc ttctttagaa acatataaga ttaaagataa aagaaataga atagggaaat        120
agcctagcta tagaaacagc acttttaaat ttcatatgta cagtgattta ttatttgcaa        180
atcatctact tttttaaaagt atgatacttt attatttgca aattatttaa tttttaaaag        240
tgatttttgt gggaggtcag agttggatgg agaagggtca ttttcatttt tgattagagg        300
attcttgtaa tgacctgatg aaaactgctc tgagggcatc                             340
```

<210> 2057
<211> 421
<212> DNA
<213> Homo sapiens

<400> 2057

```
tgaggagtgt tttacttcca attctgtggt caattttaga ataagtgtga tgtggtgctg         60
agaagaatgt atattctgtt gatttggggt ggagagttct gtagatgtct attaggtctg        120
ctttgtccag agctgagttc aagtcctgaa tatccttgtt aattttctgt ctcgttgatc        180
tgtctaatat tgacagtggg gtgttaaagt ctcctactat taattgggtg ggagtctaag        240
tctctttgta ggtctctaag aacttgctta tgaattgggt gcttctgtat agggtgccta        300
tatatttagg gtagttagct cttcttgttg cattgaacct tttaccatta tgtaatgccc        360
ttctttgtct tttttgatct tggttggttt aaagtctgtt ttatcagagg ctaggattgc        420
a                                                                        421
```

<210> 2058
<211> 2853
<212> DNA
<213> Homo sapiens

<400> 2058

```
agtctgtgtc ttttaacggg ggcatttagc ctgtttacat ttaaggttaa tattgttatg         60
tgtgagtttg atcctgtcat tatgatgcta gctggttatt ttgcccgtta gttgatgcag        120
attcttcata atgtcaatgg cctttacaat ttggtatgtt tttgcagtgg ctggtactgc        180
ttttttccttt ttgtatttag tgcttccttc agaagatctt gtaaggcagg actggtggtg        240
```

```
acaaaatctt tcagcatttg cttttctgtg aaggatttta tttctccttc acttatgaag    300
cttagtttgg ctggctctga aattctgggt tgaaaattct tttctttaag aatgttgtgc    360
caggcaccgt ggctcatgtg tgtaatccca gcactttggg aggctgaggc tggcagatca    420
cctgaggtca ggagttcaag accagcctga ccaacatggg aaaactccat ctctactaaa    480
aatacaaaat tagccagctg tggtggcaca tgcctgtaat cccaactact tgggaggctg    540
aggcaggaga atcgcttgaa cccaggaggt caggttgcgg tgagccgaga tcttgccatc    600
atactccagc ctgggcaaca agagtgaaac tccatctcac acaaaaaaaa gaatgttgaa    660
tattggcccg cactctcttc tggcttgtag tgtttccgca gagaaatcca ctgttagtct    720
gatgggcttc cctttgtgga taacccgacc tttctctctg gctgccctta acgttttttt    780
cattcctttc aaccttggtg aatctgatga ttacgtgtct tggggctgct cttctcgaga    840
agtatctttg tggtggtctc tgtctttcct gaācttgaat gttggtctgt cttgctaggt    900
tggggaagtt ctcctggata atatcctgaa gagtgttttc caacttggtt ccattctccc    960
catcattttc aggtacacca gtcaaacata ggtttggtct tctcacatag tcccatattt   1020
cttggaggct ttgttcattc cttttcattc attttttctct aatcttgtct tcatgcttta   1080
tttcattaag ttgatcttca atctctgata tcctttttc cacttgatcg atttggctat    1140
tgatacttgt gtatgcttca caaagttctt gtgctgtgtt tttcagctcc atcaggtcat   1200
tgatgatttt ctctagactg gttattctag ttagcaattc ttctaacctt ctttcaaggt   1260
tcttagtttc cttgcagtgg gttagaatgt gctcctttag ctcggaggag ttacccacct   1320
tccgaagcct acttctgtca attcgtcaaa ctcatttttcc atccagtttt gtttccttgc   1380
tggcgaggag ttatgatccc ttggaggaga agaggtgttc tggtttttgg aatttttcagc   1440
cttcttgtgc tggtttttcc tcatctccct ggatttatct gcctttggtc tttgatgttg   1500
gtgacctttg gatggggttt ttgtgtggac atcgtttttg ttgatgttga tgctattcct   1560
ttctgttttt tagttttttct cctaacaggc aggcttctct cctgcaggcc tgctggagtt   1620
tgctggaggt ccactccaga ccctgtttgc ctgagtatca ctagcagaca ctgcagaaca   1680
gcaaagattg ctgcctgctc cttcctctgg aagtttcgtc ccagaggggc acccgccaga   1740
tgctagtgga gctctcctgt atgaggtgtc tgttgacccc tgctgggagg tgtctcccag   1800
tcaggaggca caggggtcag ggacccactt gaggaggcag tctgtccctt agcagagttt   1860
gagtgctgtg ctgggagatt cgctgctctc ttcagagctg gcaggcagga acatttacgt   1920
ctgctgaagc tgcacccaca gccgcctctt ccgccaggtc ctctgtccca gagaggtggg   1980
agttttatct gttagcccct gactggggct gctgcctttc tttcagagat gccctgtcca   2040
gagaggagga atctagagag gcagtctggc tatggcagct ttgcagagct gtggtgggct   2100
ctgcccaatt cgaacttccc agaagctttg tttatactgt gaggggaaaa ccacctactc   2160
aagcctcagt aatggtggac gcttctcccc acaccaagct tgagagtccc aggtcgactt   2220
cagactgctg tgctggcagc aagaatttca agccagtgga ttttagcttg ctgggctctg   2280
tggcggtggg atccactgat ccacttggct ccctggcttc agttcccttt ccaggagagt   2340
gaacagttct gtcgctggcc ttccaggtgt cactggggta tggaaaaaaa aaaaaaaaaa   2400
aaaaaacct tctgcagcta gcttggtgtc tgcctaaatg ctgccctgt tttgcgcttg    2460
aaacccaggg ccctggtagt gtcagcactc gagggaatct cctggtctgt gggttgtaaa   2520
gaccatggga aaagcatagt atctgggttg gaatgcacca ttcctcattg cacagtccct   2580
catggcttcc ctttggtggg ggaggttgtt ttctcacccc ttgagcttac cgtgtgaggt   2640
gatgcacccc ccctgctttg gctcgtgctc tgtgggctgc acccactgtc taacctgtac   2700
caaagagatg agccaggtac cttagttgga aatgcagaaa tcacccactt tctgcattga   2760
tctcactggg agctgcagac ctgagctgtt cctgttaggc catcttgcca gccactcata   2820
ttttactttt aagtgattag gttgtttggg aga                                2853
```

```
<210> 2059
<211> 2853
<212> DNA
<213> Homo sapiens

<400> 2059
agtctgtgtc ttttaacggg ggcatttagc ctgtttacat ttaaggttaa tattgttatg     60
tgtgagtttg atcctgtcat tatgatgcta gctggttatt ttgcccgtta gttgatgcag    120
attcttcata atgtcaatgg cctttacaat ttggtatgtt tttgcagtgg ctggtactgc    180
ttttttccttt ttgtatttag tgcttccttc agaagatctt gtaaggcagg actggtggtg    240
acaaaatctt tcagcatttg cttttctgtg aaggatttta tttctccttc acttatgaag    300
cttagtttgg ctggctctga aattctgggt tgaaaattct tttctttaag aatgttgtgc    360
caggcaccgt ggctcatgtg tgtaatccca gcactttggg aggctgaggc tggcagatca    420
cctgaggtca ggagttcaag accagcctga ccaacatggg aaaactccat ctctactaaa    480
aatacaaaat tagccagctg tggtggcaca tgcctgtaat cccaactact tgggaggctg    540
```

2107

```
aggcaggaga atcgcttgaa cccaggaggt caggttgcgg tgagccgaga tcttgccatc    600
atactccagc ctgggcaaca agagtgaaac tccatctcac acaaaaaaaa gaatgttgaa    660
tattggcccg cactctcttc tggcttgtag tgtttccgca gagaaatcca ctgttagtct    720
gatgggcttc cctttgtgga taacccgacc tttctctctg gctgccctta acgttttttt    780
cattcctttc aaccttggtg aatctgatga ttacgtgtct tggggctgct cttctcgaga    840
agtatctttg tggtggtctc tgtctttcct gaacttgaat gttggtctgt cttgctaggt    900
tggggaagtt ctcctggata atatcctgaa gagtgttttc caacttggtt ccattctccc    960
catcattttc aggtacacca gtcaaacata ggtttggtct tctcacatag tcccatattt   1020
cttggaggct ttgttcattc cttttcattc attttttctct aatcttgtct tcatgcttta   1080
tttcattaag ttgatcttca atctctgata tcctttttttc cacttgatcg atttggctat   1140
tgatacttgt gtatgcttca caaagttctt gtgctgtgtt tttcagctcc atcaggtcat   1200
tgatgatttt ctctagactg gttattctag ttagcaattc ttctaacctt ctttcaaggt   1260
tcttagtttc cttgcagtgg gttagaatgt gctcctttag ctcggaggag ttacccacct   1320
tccgaagcct acttctgtca attcgtcaaa ctcattttcc atccagtttt gtttccttgc   1380
tggcgaggag ttatgatccc ttggaggaga agaggtgttc tggtttttgg aattttcagc   1440
cttcttgtgc tggttttttcc tcatctccct ggatttatct gcctttggtc tttgatgttg   1500
gtgacctttg gatggggttt ttgtgtggac atcgtttttg ttgatgttga tgctattcct   1560
ttctgttttt tagttttttct cctaacaggc aggcttctct cctgcaggcc tgctggagtt   1620
tgctggaggt ccactccaga ccctgtttgc ctgagtatca ctagcagaca ctgcagaaca   1680
gcaaagattg ctgcctgctc cttcctctgg aagtttcgtc ccagaggggc acccgccaga   1740
tgctagtgga gctctcctgt atgaggtgtc tgttgacccc tgctgggagg tgtctcccag   1800
tcaggaggca caggggtcag ggacccactt gaggaggcag tctgtccctt agcagagttt   1860
gagtgctgtg ctgggagatt cgctgctctc ttcagagctg gcaggcagga acatttacgt   1920
ctgctgaagc tgcacccaca gccgcctctt ccgccaggtc ctctgtccca gagaggtggg   1980
agttttatct gttagcccct gactggggct gctgcctttc tttcagagat gccctgtcca   2040
gagaggagga atctagagag gcagtctggc tatggcagct ttgcagagct gtggtgggct   2100
ctgcccaatt cgaacttccc agaagctttg tttatactgt gaggggaaaa ccacctactc   2160
aagcctcagt aatggtggac gcttctcccc acaccaagct tgagagtccc aggtcgactt   2220
cagactgctg tgctggcagc aagaatttca agccagtgga ttttagcttg ctgggctctg   2280
tggcggtggg atccactgat ccacttggct ccctggcttc agttcccttt ccaggagagt   2340
gaacagttct gtcgctggcc ttccaggtgt cactggggta tggaaaaaaa aaaaaaaaaa   2400
aaaaaaacct tctgcagcta gcttggtgtc tgcctaaatg gctgccctgt tttgcgcttg   2460
aaacccaggg ccctggtagt gtcagcactc gagggaatct cctggtctgt gggttgtaaa   2520
gaccatggga aaagcatagt atctgggttg gaatgcacca ttcctcattg cacagtccct   2580
catggcttcc ctttggtggg ggaggttgtt ttctcacccc ttgagcttac cgtgtgaggt   2640
gatgcacccc ccctgctttg gctcgtgctc tgtgggctgc acccactgtc taacctgtac   2700
caaagagatg agccaggtac cttagttgga aatgcagaaa tcacccactt tctgcattga   2760
tctcactggg agctgcagac ctgagctgtt cctgttaggc catcttgcca gccactcata   2820
ttttactttt aagtgattag gttgtttggg aga                                2853
```

```
<210> 2060
<211> 421
<212> DNA
<213> Homo sapiens

<400> 2060
tgaggagtgt tttacttcca attctgtggt caattttaga ataagtgtga tgtggtgctg     60
agaagaatgt atattctgtt gatttggggt ggagagttct gtagatgtct attaggtctg    120
ctttgtccag agctgagttc aagtcctgaa tatccttgtt aattttctgt ctcgttgatc    180
tgtctaatat tgacagtggg gtgttaaagt ctcctactat taattgggtg ggagtctaag    240
tctctttgta ggtctctaag aacttgctta tgaattgggt gcttctgtat agggtgccta    300
tatatttagg gtagttagct cttcttgttg cattgaacct tttaccatta tgtaatgccc    360
ttctttgtct tttttgatct tggttggttt aaagtctgtt ttatcagagg ctaggattgc    420
a                                                                     421
```

```
<210> 2061
<211> 340
<212> DNA
<213> Homo sapiens
```

2108

```
<400> 2061
aatttcttgt gtatatgcat cttttacata taaaggctgt tttaaaaatg agttgctgct      60
ttatagtttc ttctttagaa acatataaga ttaaagataa aagaaataga atagggaaat     120
agcctagcta tagaaacagc acttttaaat ttcatatgta cagtgattta ttatttgcaa     180
atcatctact ttttaaaagt atgatacttt attatttgca aattatttaa tttttaaaag     240
tgatttttgt gggaggtcag agttggatgg agaagggtca ttttcatttt tgattagagg     300
attcttgtaa tgacctgatg aaaactgctc tgagggcatc                           340


<210> 2062
<211> 340
<212> DNA
<213> Homo sapiens

<400> 2062
aatttcttgt gtatatgcat cttttacata taaaggctgt tttaaaaatg agttgctgct      60
ttatagtttc ttctttagaa acatataaga ttaaagataa aagaaataga atagggaaat     120
agcctagcta tagaaacagc acttttaaat ttcatatgta cagtgattta ttatttgcaa     180
atcatctact ttttaaaagt atgatacttt attatttgca aattatttaa tttttaaaag     240
tgatttttgt gggaggtcag agttggatgg agaagggtca ttttcatttt tgattagagg     300
attcttgtaa tgacctgatg aaaactgctc tgagggcatc                           340


<210> 2063
<211> 421
<212> DNA
<213> Homo sapiens

<400> 2063
tgaggagtgt tttacttcca attctgtggt caattttaga ataagtgtga tgtggtgctg      60
agaagaatgt atattctgtt gatttggggt ggagagttct gtagatgtct attaggtctg     120
ctttgtccag agctgagttc aagtcctgaa tatccttgtt aattttctgt ctcgttgatc     180
tgtctaatat tgacagtggg gtgttaaagt ctcctactat taattgggtg ggagtctaag     240
tctctttgta ggtctctaag aacttgctta tgaattgggt gcttctgtat agggtgccta     300
tatatttagg gtagttagct cttcttgttg cattgaacct tttaccatta tgtaatgccc     360
ttctttgtct tttttgatct tggttggttt aaagtctgtt ttatcagagg ctaggattgc     420
a                                                                      421


<210> 2064
<211> 4400
<212> DNA
<213> Homo sapiens

<400> 2064
gggaccccag gcttcctttg agacatccac cagcggtgat gggttgggac caatctcccc      60
cactcctctc caccctagca gtaaggtccc cgctctcgat actgccccag cacctgcact     120
ggccctctct gatttcccaa ctccagccca ttccaagtgc tgaaggcggg tcgctaggtg     180
ctgggacctg ggcgcggggc aagaccttgg gctgtgtggg gtgcaggctg gtttactggg     240
ttcacgattg agggagtggt ctgggggtta ggtgtagggc caggctgcgt tgtgctctaa     300
ggggcaggcg gcaggcggtt tggggggggct gtggtcagac agggtggggt ggcggtgggt     360
ttggggaagc cgcagcagcc cgccttgggg tcccgcgagt gccgagggag ctgccggggc     420
atggtggcgc ggggcccgtg gtcctgcccg gcacgacccc cgccccgcag cgccccgcag     480
cgccccgccc ccgcggcccc gctcgcgacg cgtctcccgc ggcgccccgc ccccgcccgc     540
agtgcccgga tgcgggtgac gcgcggccgc catctttccg tcccgggcag ccagcgccag     600
tcggagccag cgcgagccgc cgccgccatc actgccgctg ccaagtcctc cacccgctgc     660
ccccgccatg tgagtcggcc gcccgccacc ctcaccgcgc ttccctgcgc cggccgccgc     720
ccttggcaac cggccgtcgg gagtgcccgg ggtctctcct gcgttccccg cgccccgggg     780
ccaggcccaa gccggtgact gcgcgcgggc ggccgaggag ccccgcgtcc cgggctggcc     840
ggctcgggcg atggccgcgg gaaggagcgg acccagtgtc ctcctgcccc tccccgcccc     900
```

2109

```
tgtcaccgcg gccgcctgtc ttttcgggtc gacccggatc gcatctgtga ggtcgccctc    960
agttgacagg cggggaaact gaggccgggg gggcctcgct caaggtcacg cagctcatcg   1020
gcggcagggc tggaccgaga ccagggctta catcgggtgg ccttcctccc gaaaaggagg   1080
actggaggga cgaggatgga caggtggatg ggcggagccc tggctgcggg gccgggaggc   1140
tgcaggccct gggtcttaat ccgtccctgc tcctcaggtc tgctaccgct gccacggccc   1200
cccctgctgc cccggctggg gagggtggtc cccctgcacc ccctccaaac ctcaccagta   1260
acaggagact gcagcagacc caggcccagg tggatgaggt gagtgtgggg ggagtcaaaa   1320
gcagtaggag ggaccctggg ggttggcgta taggtgtagg ggcccatgtt ggtttgggag   1380
tgatgacagt tcacgcctgt gggtttgcgg acaaagatac catgccccat ccctgtctcc   1440
ctgtcagcac gcacttggaa gggcgctggg ggtgttaatc agctttgcta gcctggggtg   1500
tgccagcctg ggcaggtgtg ctctggtgat ggacagagcg cctgaggttc catagaggga   1560
gggtgttgct atgacatctg agatgtcacc agcatgcccc tgatgtgtgc tccttgcatg   1620
tccccaggtg tgctaggcat gttctgtgtg tccttggcat gttaacctgg cagtatcagg   1680
gtgcatgttc catgtgtggc acggtgggca catgtttgag gattgccctc actgaggtgg   1740
gccttggcac acccccctgc ctcgtgggcc cttctcccag gtggtggaca tcatgagggt   1800
gaacgtggac aaggtcctgg agcgagacca gaagctgtcg gagctggacg accgtgcaga   1860
tgcactccag gcggggggcct cccagtttga aacaagcgca gccaagctca agcgcaaata   1920
ctggtggaaa aacctcaagg taagggtggg gacaggaagg aggacaggtg ggtgaatggg   1980
gtatcatagt ttgtcttact gatcctcgcc tctcaccccc agatgatgat catcttggga   2040
gtgatttgcg ccatcatcct catcatcatc ataggtgagt agggtgagaa tggccggggc   2100
cctttccctg gagaggtttc cccagtggat tctaggtttt gaaggtcatt aatctagttt   2160
ttactcttca gccaaaaaca catatagctg ctaatggcaa ttctgattca tctagagcca   2220
aaaactttga tgttatttag cctgcatttt gcctagttct tggcagtctt gttaacattt   2280
ggaaatagga aagctggtgt atccattgag gaccctttag gcctaagagc ccagtctgag   2340
aaccctggaa ttgaggagtg ggagaaagga aaggaccagg ggcttgagac atgaccagga   2400
agccaaccac cccattattt gagagcttgc ggtctcagag gctcagagga ttagggtctg   2460
tggcttcaag gccataccat ggagcggaag ggacctcaga acctacctgt ctagcccctt   2520
gctttgtaga tggaaaaact gagtccaaga gagggtgtca gccagctggg gagtggggag   2580
gattggagca gggccaggcc tgacacactg ctttcttgtt ctctctcttt ctctccccctc   2640
tccctcttcc tcatcttctt cccctctctc cacagtttac ttcagcactt aaatccccga   2700
ggagtctgcc ctgcctagag aagggcctct cccccaaccc tcagccgttc ctccacctct   2760
cagccatatc tttcagcccc cactcccctg gatccgtgtg tgtgtgtgtc cgtgtgtgtg   2820
tccccctgta aatagccagc tgttatttat acatatataa tattatatat atttggtctg   2880
tttgtagttt tattactaga tgattttttcc ggttgtcctt aacacccctt cctgaggttc   2940
ccttcacccc tctctcttgc cttccttccc tttccctttc ttcctgacta gccccaagtc   3000
ccttcatttg catctgctat gcaatagtcc ctctcctttc cttcttcttc cctcagattt   3060
agctgatcct tcctcccacc ctggccttcc tttcctcttt cctcctcact ctccccgtca   3120
tgctccctct gccccgccct caaaaaaaaa aaaaaaaaa aaaaacaac agcacctgtc   3180
caggcttcct taggtacatc ttctttgtat ccattgggag gctctgagac tggccccact   3240
tggtcctaag aatcccaagg tctttgggag cgtccagcat gttaattagc gtatcattac   3300
atactgctat ccctttccat ttcttttgt tccatcactc ttctctcaac ctgtgtttct   3360
ttttttactg aggagttagt ccccattagt tcttgtatca cattttcatt tgcacgacat   3420
tactcgcagg tggtggggag cctgggcttt tggggaacca ggctgctctg tccccagca   3480
ttgcctcctc ctagcccctc tagtccagtt tgcctccctt accctcattt tccaaacctc   3540
ttgtaccctc ctctccctcc cccagctggt atgtaagtgt cttgaagttc agtatgttat   3600
gatggaccaa taattctgcc acttcgggtt tctccctaca ttcctgctcc ccagttttca   3660
tgtggggtac tcaactgaca ttcccatggg gtttccctcc catctgcctg atccacctcc   3720
tcctcccacc aggagagttg ggggttggcc acaattgatc tcttgtgaga ggggtggcta   3780
ccagtgtgtg tgtgggggtc atcactgcct tggggaggag tggggcaggg cagagaatcc   3840
ccccaattcc tgcctgaaat ctctggcctc acccctgctg ggggttggac tgaaaaccct   3900
cctccccaat ttgggggggtg ttgccccatc actgccagc tcctctgact gcccccctg   3960
aatttagggt ggggtacta gtcactgcca atgtgtgtat gggacttgct ggaaacggg   4020
gatgcttgcc cctctccagg actattgagc ccagagagag ctgtcctctc attgggtgaa   4080
ctgattgagg aagggtctat tgtctttta aatggcacaa ttttaagggt ttgagggtac   4140
agtcccttaa cctgccacgg gagggggccc ccaaacttc ttcccccac acttctggtt   4200
ttctgtgtgg aggggggagca gggatatcta agctgtggtg tgaaagggta ggagagatgc   4260
tggaggtggg ggtgctgtgt tttagacccc ccatattatc ccagtgtccc ctgcccccct   4320
cttcccccac cccatgcccc caattctgtg gcgcatccag attgtgaaaa tgtacaataa   4380
atgtgtaatg agtaaccagg                                               4400
```

```
<210> 2065
<211> 463
<212> DNA
<213> Homo sapiens

<400> 2065
gtctaagatc ttttttattt ttctattttt tttttttggt tgggggagaa taagatcttt      60
tcttaaccaa tgggaataat attggatcgg aaggtatacc aggaaggttg agaagataca     120
ttggtaatgg actggacttt gcaagaggcc ctgaccttgg gcagggcaaa gtgtgattct     180
caaagtggcc acagggggggc actaggagtt ggtaatggga agtgtcatag ccagcccgtg     240
tctctaagcc cggtgcgccc tgtggtctag ggttcccagc tttcgtttcc ctttactggg     300
gcatgttcct gctgttggac tcctttctac tcctcgattt aacttctaga cgctctgccg     360
tggctcccgt gcagcagtag atgaagtagt tggccatttc tgtgaagcat gtcttcccct     420
ctgtgcctaa cccagtgcca gcgcccagat ggggttagta aat                      463


<210> 2066
<211> 359
<212> DNA
<213> Homo sapiens

<400> 2066
ccgggactgt cagtgcacaa ggaccaggga cgcggctgct cctctgaggg ggaggaagcc      60
aagagtatct tctcttagat tgggctgagt tcccacaccc agcacacaca ttccctgctc     120
actcacctcc cacagacagc tgggaaatga cacctctggt gacagagcca ctctccgggc     180
ttctgtgggg agcgggtggg gcactgcagt gggggaggat ctcacacccg gaggccctgg     240
gaagccaggg tgggggaggg aggaagctgg ttcctgtttg tcttagagat caaggccatc     300
agcctccctg caccttccag ggatgtagta agcaccccca ccccagggcc aaagggcct      359


<210> 2067
<211> 16146
<212> DNA
<213> Homo sapiens

<400> 2067
gtgtggcgtc acttccggct tccttcagtc cgctggtccc gagcacgagc tgtgagggga      60
ttcacttgtg tgcggaactc ctcggaacca tggtgagcct gactcccctg cctattgccc     120
tacccctgct ccgccgtgct cttgccaccc cactgcttcc tctgtcctgc tagggacgta     180
ggctccgttt ttgtctcccc ggccctccgc acatggtgcg agccatgcgc ggggcgtgcg     240
gcctgcgcca ggccagccgg tggagctcac cacgagggggg aggggtggac cgcaaagcca     300
gcgtctcctt gtgcctaggt ctttgcatag tcccggcagc ccaggtccgc gcctcacccg     360
gagcgaagaa atttctagtg tgggacccgc tccgccctcc ttctaggggc ggagcctgga     420
gcgacggggt ctgagccatc agagggtgga ggggccgcag ccttccgagg gtggaagatg     480
gaggccgcgt tccctcgccc gcccggcagg cgtcaccttg atggcctgca accccctccct     540
gcctcattct tagttcaaga tcgtctttag tctcgctgta cgtaactgtc aatctcgctg     600
gtgtataatt tatactcccg ggggccttgt aaatccgaaa agccatgtcg ctctcctaca     660
agtccctctc tcccacttaa atgctttctc cgatgatgga agcttcattt gattgaaaac     720
attgttgtaa atgagttttc tcttagatgt ccacttgtaa gactagtgga aggcacctca     780
gtgtatgtgt tagagtattg gtacttaaac ggaatgcctc ttggttttcc ttttcaggcg     840
tcccttttcc ttgcacctgt taacatcttt aaggcaggag ctgatgaaga gagagcagag     900
acagctcgtc tggtaagcct tgttctaagc attgtttttaa agataaaact ggaggccagg     960
cgcggtggct tactcctgta atcccagtac tttgggaggc cgaggtaggc ggatgaactg    1020
aggtcaggag ttcgagacca gcctggccaa catggtaaaa ccccgtttct actagaaata    1080
caaaaattag ccgggcgtgg tgatgggcac ctgtaatccc agctactcgg gaggctgagg    1140
caggaggatc gcttgaaccc aggaggcgga ggttgcagtg agctgagatc gcgccattgc    1200
actccagcct gggcgacaga gcgacactct gcctcaaaaa aaaaaaaaag taaataaaga    1260
taaaactgta cttgaagact gtaaagttga ttctgataat ctccttggtt tttactccag    1320
acttctttta ttggtgccat cgccattgga gacttggtaa agagcacctt gggacccaaa    1380
ggcatggtaa gaaaaataga aaagtttttat attttaatat tgttttagag cgcttggtgg    1440
aaatataata acaagcgtat taaaatgctt tttaatcttt aaaacgttta attataaaag    1500
```

2111

```
acaagtatgt  tctccttagt  aaaaatcaga  gtccccagaa  tcaccatccc  caatcccatg  1560
cccctcccca  atgacaagta  ctgttatcat  ttgcacgtac  atcttctaat  attctgttta  1620
tgtagaagta  tgtgtacttc  attatgtatt  ttatactcat  gtaacatact  gttttataaa  1680
acagatacta  tttatcaata  cttttttgta  gcttgctctt  ttaaattcct  ttcagtgtaa  1740
gtagataaca  ctgccccttt  aactgtcaaa  tattatcctg  taccttaatt  attttataat  1800
ttaattatgg  ctgtattgat  agtttctttc  cattgttttt  gcagttacgg  tgttgaaaca  1860
aaaactagtg  tctacctgtg  cttctagtgt  ttctaggggt  agatacatgg  tttggttacg  1920
tggtgtatgt  attgaaaaca  tttgatgaat  ggataccaca  aaatagctat  ccagagtgtt  1980
tatacactag  cactgtgtga  gaatactgat  tgatccatgc  attcttcaag  atgtgcttat  2040
gtcttaactt  gaaccaatta  tgttcccttt  aggacaaaat  tcttctaagc  agtggacgag  2100
atgcctctct  tatggtaacc  aatgatggtg  ccactattct  aaaaaacatt  ggtgttgaca  2160
atccagcagc  taaagtttta  gttggtaagt  ctgaatatac  tttttcacca  acctaataat  2220
actgtttgtt  aacattttg   aaataacttt  ataaataggc  tgtgttgacc  aatcgtactg  2280
tcaattgatg  tccactagtt  gttaattatc  gttgttaaaa  tacaagcttc  aggagtgccc  2340
gtatgttggt  ggtaaaactg  ttgcatttca  gacctcagag  ttccaaataa  tttgttgaat  2400
gaggaaccct  ggtaagttta  gattggtagt  gaatatttt   ggagaattta  gtaagcaaag  2460
aagcaatttt  gagttaataa  ctaatttctt  tttctagata  tgtcaagggt  tcaagatgat  2520
gaagttggtg  atggcactac  ctctgttacc  gtttttagcag  cagaattatt  aagggtaaga  2580
gcaactaagc  aactcttttt  tcctactgtg  tttttgagta  tcagaggtaa  tctagtcctt  2640
acttcctctg  tctttactat  tgaggagtgc  ttaataattt  tctatttata  acttttgttt  2700
tataacttta  ttaataggaa  gcagacgaag  gcagacgaag  ctgcaagaga  ggcgctgttg  agttctgcag  2760
tcatagcggg  ttggagagaa  gcccacgaagg  ctgcaagaga  ggcgctgttg  agttctgcag  2820
ttgatcatgg  gtttgtatag  caaagtacta  ctgttctaaa  catttagtgt  tctttcataa  2880
catgcttaat  gcaagaaatc  tataggacac  tgaaaagcat  acacaaagat  catcttgctg  2940
cctcacccca  ctccaacagt  caaacctaca  tcagcctcca  gagatagcca  ctaaagttaa  3000
gtttgggttt  ttagtctttt  tgtatatatc  atcaaaatat  acaaataaag  caaatagtat  3060
aatactgtat  agagaatttg  ttagcctctt  tttaacctag  ttaaatatta  agcacatttt  3120
tggatgtcaa  ttttctgtgc  agtattttaa  tagagttaca  catttgaata  tttggctaga  3180
atgactgtat  taacctatct  gtaggggggag  atttgtgtat  ttgatgattt  ttagcattat  3240
aaaataactt  tgtgacgttg  cgacatagcc  caaaggtttc  tagaagtgta  attgttgggt  3300
ccaaaggtaa  gtgtgtgtgt  tttaaggcac  ccccaaacct  gggctgcaca  gcaggtgagc  3360
agcaggtgga  aaaattgtct  tcccatgaaa  ccagtccctg  gtgccaaaaa  ggtccgggac  3420
cactgtttta  aggcacttct  atttatttgc  ccattcacaa  ctgtataata  atacttgttc  3480
ttcacgtcct  tttatttatt  tatttatttt  gagacggagt  ctcgctctta  gagttgccca  3540
gaatggagtg  cagtggcacg  acttcggctg  actgcaacct  ctgcctcccg  ggttcaagcg  3600
attctcttgc  ctcagcctcc  caagtagcag  ggactacagg  catgtgccat  catagccagc  3660
taattttgta  ttttttagtgt  agatgggggtt  tcaccatgtt  gctcaggctg  gtcttgaact  3720
gacctcaagt  gatccatcct  cctcagtctc  ccaaagtgct  aggattacag  gcgtgagcca  3780
ctgtgcccgg  ccatttctca  cattcttgcc  aacattagac  ttttgcatgc  ttgtgtggcc  3840
cccacccctc  tttttttttt  ggcatttttgc  cagtttggtg  gggaaaataa  catctttaat  3900
ttgtgtttct  tgattactgc  tgaggtttaa  ttcttttcat  atagcttaca  gacttgatca  3960
gttagggtaa  aattatctat  tgacatgaat  atctagataa  attttgaaaa  gtaaagtagg  4020
gttaatatgt  atatttggtt  ggttttattt  agttccgatg  aagttaaatt  ccgtcaagat  4080
ttaatgaata  ttgcgggcac  aacattatcc  tcaaaacttc  ttactcatca  caaagaccac  4140
tttacaaagt  tagctgtaga  agcagttctc  agactgaaag  gctctggcaa  cctggaggca  4200
attcatatta  tcaagaagct  aggaggaagt  ttggcagatt  cctatttaga  tgaaggtatg  4260
tatgaatgtc  agatacaaga  agctttgatt  agatgctgag  ggctgaatac  tgagtgaatt  4320
ctgttttgag  accagtgacc  ctttacaaag  ccagtgaact  tgaatttaag  gacatatcat  4380
atgtgcaacc  atttttgtca  ttttattgac  agtgtactcc  tcttcccgcg  ctattccagc  4440
attgttgatg  atctctagag  tttacttaac  taccatgaag  ttatttgcag  tctctgataa  4500
agaggaaatg  ttttctttta  ctagaaatca  tctattctca  aatggtactt  ttaccaggat  4560
tatatgtatt  ctccaggaag  ggtctgggtc  agtcaaatca  ttgtgttagc  tggttgttga  4620
ggatgtacag  ttgaccattg  aacaacatgg  gtttgaatta  tgtaggttca  caatgcaggt  4680
ttttttcaata  aatatagtca  gcccttgtgt  tccgtggttt  gcacatgtgc  aaccgaacgt  4740
ggatggaaaa  tgcagtattt  gcaggatttg  aaacccatgt  atatagtggg  ccagctttc   4800
aaatctgctg  gttccagtca  gcctggaact  taagtatgtg  gggatttttgg  tgtatgtggg  4860
cgtcttggaa  ccagtcccct  tcgtatactg  ggggatgact  agttttttttt  agaaaagaat  4920
taaaaaaaat  ttctttaaca  ataattatg   tatgtttata  gggcaagagg  atctagttct  4980
taaagagtga  taaatgagac  ataataagta  ctgctttctt  agtagtacat  ttttgtttag  5040
agtgaagttt  tccagatcat  cttcacatta  tatttacttc  acaaaatggc  ctgtcaaaaa  5100
gtataggcat  tctttatatag  agaaggaaaa  aaaaagaatt  agatggtgct  ttacaacttc  5160
```

2112

```
tgtttttacc agtggtttgg agtcctggtt ttgttctgtg tcataggtct tgatttattt    5220
taagagagag tcataattct gaaaatactc ttgattaagt ttatatacaa gagctgtgta    5280
gcatttcttt ttttttttttt ttgagacgga gtctggctgt gtcacccagg ctggagtgca   5340
gcagtatgat ctcgcctcac tgcaaccact gcctcctgag ttaaggcgat tctcctgcct    5400
cagcctcctg agtaggtggg attacaggcg tgtgccacca tgcctggcta acttttttgt    5460
attttttagta gagacggggt atcgccatgt tgaccaggct ggtctcgaac tcctgaccta   5520
aggggatcca cctgcctcag cctcccaaag tactgggatt acaggcgtga gccaccatgc    5580
ctggccgctg cgtagcattt ctgatagggg ctggtggtag ggaaggagca ttaaaacaag    5640
aatattagta gcacaagcag caccattctt gaatgtctgc tctgtactag gaattgtaat    5700
aggaacttta gtcatttagt catcatgacc tggtgagtga ggattaggtt cacttgaata    5760
gagtagaaaa cccaagataa tggtggcttc ataatggaaa agtttctaat gtaaccaaaa    5820
aaaggcctag aaaggtaggt ggtactgggt ttgtatgatg gttccaaagc agcaggacta    5880
ggctggtaac tagcacctct gctactggtt acattcctgt tttacaaatt agcatttctg    5940
gttggataat ttgtcgaagg ttatatagcc agcagcaggg gcatgatcag ggtcagattt    6000
atctgactcc acggtgtcca tggttttttcc atttttacca ccagcctcaa tacctgaatc    6060
ttcaatttttt ctcttgtggt ggtgatttta agctaataaa aatataggac ttaacctatt    6120
gtctttatat tgcaacccat acagatgtgg gtgtagcgta tatctgaaac aaaagtttca    6180
aaatactgtt taattttattt gtctgtactg tgctcttata ttttctgtttt catatttttt    6240
aagtaaccca ttaaattgat tttgtaataa ctcttctagt gggatgcttt ataccagaag    6300
tgtccaagga agagaataca gtcatgggtt cctagtttct gtttctggtt gggtcggtaa    6360
agccccttcc tcctccctct tttctgctta tcactagaga cagaaactaa aatccatggc    6420
tttcaggcgc taaaagccta aaagcaaaac aacaacagaa taaggcaggt tggacaagct    6480
tgcttttatg ccttctaaga gcttggtaaa ttggacttaa atagcttctt tgaaacagtg    6540
atatgataaa gcagacagct ttttataaga tttactaagg ctgctttgaa gtattaaata    6600
tgatactgtt cttatattta ttgtaggctt cctgttggat aaaaaaattg gagtaaatca    6660
accaaaacga attgaaaatg ctaaaattct tattgcaaat actggtatgg atacagacaa    6720
aataaaggta tgtaactcta cttttttaaaa attaaaatta ctgcccaggc agagtggctc    6780
atgcctgtaa tcctagcaat ttgggaggcc aaggtggtgg atcatctgag atcagaagtt    6840
tgagaccagc ctgaccaaca tggagaaacc ctgtctctac taaaaaaaaa aaaatacaaa    6900
attagctggg catggtggcg catgcctgta atcccagcta ttcgggaggc tgaggcagga    6960
gaatcacttg aacccaggag gcggaggttg cactgagccg agattgtgct actgcactcg    7020
agcctgggca acaagagtga aactccgtct caaaagtctc aaaaaaaaaa aaattgctgg    7080
attctataaa ctcaggaatc aattgcacta aaaagcttgg aataggtatg aatctattgt    7140
gtatatacac atatatatac gttggtaaaa atgttgaaat atgctatggg actctttaaa    7200
aagagtaatg aggcctggcg tggtggttca cgcctgtaat cccagtactt tgggaggcca    7260
ggcgggcgga tcacaaggtc aggagttcaa ggccagactg accaatgtga gatggtgaaa    7320
ccctgtcttt actaaaaata caaaaattag ctgggtgtgg tggcgcacac ctgtaatccc    7380
agctgcttgg aaggctgagg caggagaatc acttgaaccc agcgggtgga ggttgcagtg    7440
agccgagatt gccccactgc actccagcct gggcaacaga gcgagactca atctcaaaaa    7500
aaataatgaa actgatgctc tctttatgct tcgtttgtct tagatatttg gttcccgggt    7560
aagagttgac tctacagcaa aggttgcaga aatagaacat gcggaaagg aaaaaatgaa    7620
ggagaaagtt gaacgtattc ttaagcatgg aataaattgc tttattaaca ggtctgtgtt    7680
tgctttttaag aaaggatttt tttccatgaa agtttatgga atacttcata tttacttata    7740
ttgaattaga tttttttacct aggaactgtc ttagataact tcacttaaat tatggatttt    7800
tgtaatcagt aaattgtgat ttatgcacac ttacagtgac cagaattacg ggattgattt    7860
atacagttac tataataaag aacacttctt ttcatactag taatggatgc attagtacta    7920
tagttgataa actctaatta tataggtaag aaatgcaatc ttgttctaat ttgcatttct    7980
tttacttgtg gtaaaaatgt ttacatgttt tttagtctaa tgtagtttat cttgtaacag    8040
ttgtgagcat aatgtttttca tgtaaaatat ttacaggcaa ttaatttata attatcctga    8100
acagctcttt ggtgctgctg gtgtcatggc tattgagcat gcagattttg caggtgtgga    8160
acgcctagct cttgtcacag gtatggaaaa aaggtattgt tttctaacaa acacaatagt    8220
cactcttgaa tttgttatttt gttactatat gcaactacct ttaaggagtt tagaatttca    8280
gcagttattc tgaaatctat tctcttggat accttttaatt tagatacata gatacattac    8340
atttacgata ccaagttata taccacattt gccgtaggta tagatttctt tcattgtgtc    8400
actgtttttaa aggtagattt ttggccaggt gcagtggctt gtgcctgtaa tcccagcact    8460
ttgggaggcc gaggcagcca gatcgcttga gctcaggagt ttcagaccaa ctttggcaac    8520
attgcgaacc cacatcccta caaaaaaaaa aaattggcca ggtgtggtgg caagcgcctg    8580
tgatcctagc cacttggggg gaggctgagg gaagagaatc gcttgagcct gggaggcaga    8640
ggttgcagtc agcggagatc gtgccactgc gctccagcct ggcgacaca gtgagaccct     8700
gtctcaaaaa aaaaaaaaga tatgtatatt ttttttctcac aaacctgtaa gaccgttgtt   8760
aaaatctgaa caaactagag ctttaaaaag tcttaagtct acttacattt atctagttcg    8820
```

```
tacatttgtt  tttattgctt  agtaagtagt  tgaatgcttt  gtgtcctttg  tagtagtaca   8880
gttacaatag  taacctttat  tgaacattta  ctgtgtgctg  gagagtgggt  caagtactga   8940
aacattgctt  ttgttaattt  taaaaaattt  ctgaaagtaa  taaacgttag  catacgtgaa   9000
acaatcaaca  ttgtataatg  aaaattagta  tacctcaata  ccctttaata  gaagtatgag   9060
tgatataatt  ccagttgtgt  caaatagaaa  ttgtgtttat  aaatcagaca  tgtctgtcta   9120
catcacaatg  acatgagttc  aggctggttg  cggtggctca  tgcttgtaat  cccagtgctt   9180
tgagaggcca  aggcaggaag  attgcttgaa  gccaggagtt  caagaccagc  ctgggcaata   9240
tagtaagact  gtctctacaa  aaaattagct  gggcgtggtg  gcacatgcct  gtagtcctag   9300
ctacttggga  ggttgaggca  ggagatctct  tcagcccagg  agtccaaggc  tacagtgagc   9360
tgtgatcacg  tcactgcagt  ccatcctaag  tgacagagca  agacctgtc  tttaaaaaaa   9420
aaaaaaaaaa  tgcagcttgt  ttgcttttta  ttgtggtaat  ggtttaaaaa  ttattgttta   9480
ttaaattttt  acagatttag  ggatataagt  atagtttgt  taatggtttt  catagtacac   9540
tctaagccct  ggaaaataag  tttaacactt  ttctagattt  taggtccttg  aaaatgaatg   9600
aataggttgg  aaagttggtt  tgggaatgag  aattaaggag  acctgggtta  tgagttgtga   9660
agtcagtagg  gctgtcacac  tgtttggaac  tgccatgaat  attagaagaa  attatagtgt   9720
actaaccttt  ggagagtgga  cttggtctca  tcccagaatg  atctcttaag  acgttttttt   9780
taatcatttg  agaagcatag  tcgtcttcta  accaagagac  attttccttt  aattacttga   9840
agtgggttta  cttgctttaa  agttacttag  gagccattgc  gtacttgatg  ctttaaggtg   9900
acaaataaac  acaatttaag  atgctcatgt  ttatgtaatt  cattctttag  ttccacaaaa   9960
taaagatgta  agaggccggg  tgtggtggct  cacgcccta  atcccagcac  tttaggaagg  10020
cctaagtggg  cagatcacaa  ggtctggagt  ttgagaccag  cctggtcaat  atggtgaaac  10080
cctgtctcta  ctaaaaataa  aaaaattagc  caggcgtggt  ggtgggtgcc  tgtagtcgca  10140
gctactcggg  aggctgaggc  aggagaatca  cttgaacccg  ggaggtggag  gttgcagtga  10200
gctgagattg  gcgccactgc  actccagcct  gggtgacaga  gcgagactcc  gtctcaaaaa  10260
aaaaaaaaaa  aaaagatgta  agaagtaaat  ggtaataata  tattgatggg  ataaacatat  10320
cgtaaggtct  tgacatgaaa  ttgctctata  cccagaagaa  tgtttattaa  gtacaccaac  10380
tgtatgtcta  tgaaggtgac  cacatggtgg  ctcccatcct  taaaagctca  gtggttgtca  10440
aaggtgtatg  atgacattgg  ttcttgcaag  tgtcattaaa  taaatgtctt  gcactgggca  10500
tggtggcatg  tgccagcagt  ttgatctatt  caagaggctg  aggcagaaag  attgcttgtg  10560
cccaggaggt  tgtgctatga  tggtgcctgg  tgaatagtca  ttgcgctcca  gtctaggcaa  10620
ggtagcaaga  cactctctct  ttaaaaagaa  agaaaagtct  catgtagaag  gatgaagtga  10680
aaagtttcat  aagccaagtt  agtcttattt  ttggatatga  cgtcccaaat  atctgttgtg  10740
tctcacatct  agaacacaaa  gcagtctcag  aatttтgcca  gccaaaagta  aaaagaactt  10800
tatacaaatt  atgagtataa  attagtagtt  tcaaagacca  gagtctttat  gaatttatta  10860
taaaataaat  aatagagcat  tgacagattt  atcagtaagg  cataggaaaa  gaagggttga  10920
ttgataatat  atgcaattca  cattatgaaa  ggagtagtca  gctagagaaa  aggattttga  10980
aatggaaacc  tgacttttgc  ttagttagga  aatagggaac  gaagtggctg  acctgttcag  11040
tttacagcat  ggaagatgga  gggaaaatag  gaatagaaat  gagacataag  gactaaatta  11100
atttgttctt  attaaatttg  gtctgggaaa  ttcttagtat  gcatttcttg  tttttttagg  11160
ccttaggaca  tttcatttgt  gataattaga  gatatcaggt  gcttattaag  cagttcatga  11220
agtgtatagt  ggttgactta  taggacaaat  attttcatgt  cttgtgctgg  gaattgtatc  11280
atgaggtctt  agtcttatag  gttggattca  gaagagaatc  tgaatttaaa  ctcaaaagta  11340
actgctttaa  gactcagttt  aaccttggga  aggtagtatt  gtatagtgtg  tgcttatagg  11400
tctgaagcca  gactgcttga  gtttgaaccc  cagctttta  tattcatcct  agttaggtct  11460
ttggatagga  aggtaaacct  cttggcctca  tttttatcat  gtgtaaaatg  ggataataat  11520
ggagcctatc  caagaggatt  attttaaaga  ttaaataatt  agtcgatatg  aagtatttaa  11580
aaagagtgcc  aggaatataa  tcagcaatca  atttttaaaa  tgtgaaacac  attacctatc  11640
attatctatc  cattactgct  tattagaaaa  caggaatttt  aagcctgctg  tgcatttaac  11700
taatacatgt  ttatgtttat  aggtggtgaa  attgcctcta  cctttgatca  cccagaactg  11760
gtgaagcttg  gaagttgcaa  acttatcgag  gaagtcatga  ttggagaaga  caaactcatt  11820
cactttctg  gggttgccct  tggtgagtga  ttatgtagat  cctggttagg  gtgtctaaat  11880
tcttgctagg  ctctgttgaa  gtaaaggtta  ttgtagttac  tagaatagca  tatcttacaa  11940
gtcttaactc  ttcagaagca  tgatacatac  tttgtttcag  tctcttgagt  caacctcata  12000
tttaccgtgt  ctttgtgaac  agtgcatgtt  caacagtttt  ttttccttga  taacttagaa  12060
ccattatgag  ccttgattgt  tggagaatgt  ataatacagg  aagacaggtc  agctttcaga  12120
acccagtaat  ataaccaaca  ccggcataaa  taatagaagg  caaacttttt  atccctaagt  12180
ggtcactgtg  tctttaatt  ttaggtgagg  cttgtaccat  tgttttgcgt  ggtgccactc  12240
aacaaatttt  agatgaagca  gaaagatcat  tgcatgatgc  tctttgtgtt  cttgcgcaaa  12300
ctgtaaagga  ctctagaaca  gtttatggag  gaggtaagca  tttagaaaat  gttgaatata  12360
ttttaatttt  cttaaagtac  aatataagtc  ataagtggtt  ttaatggttc  ttacagaaat  12420
cttatattgc  ttttgcacta  aattttaaaa  tgcttggcat  atcttaaagt  cagtaattca  12480
```

2114

```
gtatcttgga  dacaactaag  cattgcaata  ttttattgga  attttaatct  ttaggctgtt  12540
ctgagatgtt  gatggctcat  gctgtgacac  agcttgccaa  tagaacacca  ggcaaagaag  12600
ctgttgcaat  ggagtcttat  gctaaagcac  tgagaatggt  aagttaatca  aaatgagaga  12660
tccgaactta  agttttgtgg  ttattgatag  ttttaaaatg  agtagaaaat  gaactggtta  12720
atactgcttt  taaatttgat  tctggagttt  ctcctcttcg  tgagcagtaa  ctgaagcaga  12780
ttttacattg  ttcctaaatg  tataattta   aaaagctatc  ctagttagga  gtaaatcagt  12840
ggttcttaca  gtagagtgag  tagttacttg  ttttcttcat  tttcatagtt  gccaaccatc  12900
atagctgaca  atgcaggcta  tgacagtgca  gacctggtgg  cacagctcag  ggctgctcac  12960
agtgaaggca  ataccactgc  tggattgggt  aagcaatcaa  ggggaacttt  gtggccgttg  13020
ttaaaagtaa  ctcttttcac  taagcttttt  ttttcttttg  gaacataaag  agttacaata  13080
accgtataaa  agactctttt  ggactttgtc  ctcataatca  ttacatgtgc  tgggaaaatg  13140
tgtgtgactt  tatatgctca  gcatttccca  aactttgtta  ttccataaga  catgtaaaac  13200
tggttagaag  atttgtaact  atttggtata  taacgactat  aggatttaaa  tataaacaat  13260
acttacattc  tgaaaaataa  cataaactat  tatgttgttt  atacaatcag  tattaacttc  13320
taatttcata  gtaaacttac  tgcaagataa  tcttgagtac  agatcacaga  tctctagtcc  13380
atagataaaa  gtggccaatg  aggcagattt  aattcatatt  gaaaaacttt  ctgacaagct  13440
gtgctggaca  ttatagagta  gtcttaagaa  ggtagataat  cctgtcattg  aacaagaggg  13500
agcaccagtt  aatctgtgag  aaaatgaagc  aggattctca  caagaagaga  agttggggtag  13560
gtaacttatg  aattttcttc  catttgtttt  ttattatttg  atatgttgtc  ttctattaat  13620
atgggtgatc  agtagttgac  attattgttg  ttattactat  tattataact  gacacaatgg  13680
tcttgctctg  ttccccaggc  tggagtgcag  tggcaccatg  ataattcact  gcagccttga  13740
acccctggct  caagcagttc  tccttcctca  gccttccaag  tagttagggc  taaaggcatg  13800
tgccacaatg  cctgactaaa  ttattttat   tttcttagag  atgggggggc  agtctcacta  13860
tgttgttcag  gctggcctca  agcaatcctc  ctgcctcagc  ctcccaaagt  gctaggatta  13920
taggtgtgag  ccactgatcc  tggccccttt  tattttattt  atttattttt  tgagatagag  13980
tttcactgtt  gttactcagg  ctggagtgca  gaggcatgat  ctcagctcac  tgccacctct  14040
gcctcctggg  ttcaagtgat  tatcctgcct  cagcctcctg  agtagctggg  attacaggtg  14100
cccaccacca  tgcccggcta  attttttata  tttttagtag  acggggtttc  accatgtttg  14160
ccaggctggt  ctccaactcc  tgaccttagg  tgatctacct  gcctcagcct  cccaaagtgc  14220
tgggagtaca  gatgtgagcc  gctgcacccg  gcccctttta  attttttaa   aggctttctt  14280
tgagctcatt  tgtaggctta  tctacctact  gagtaaagta  gttgggtgtc  ctaatttat   14340
taataggatt  aatttttatt  ataaatcatt  agagatgttt  tgatacttta  gttaaaactg  14400
ctttttagta  aatttgtttt  tctttgcaga  tatgagggaa  ggcaccattg  gagatatggc  14460
tatcctgggt  ataacagaaa  gttttcaagt  gaagcgacag  gttcttctga  gtgcagctga  14520
agcagcagag  gtgattctgc  gtgtggacaa  catcatcaaa  gcggcaccca  ggtaccctaa  14580
cactttctc   agaaaaaatt  actaacagca  aaacaaaata  gggagctgta  tttattttat  14640
aattagagtt  aatgaaaagc  agagacagtt  ttgcctggat  aaaagtatgt  aagttattta  14700
aaatatcaca  actcttaaca  cttaagccag  aaaaacttaa  ggggaaagag  ggatgggcag  14760
ctgaggtagc  tcttaggatt  gaaaaggcac  agaaagagcc  atgcttggaa  aggtcaagta  14820
ctgaggacag  tagatgctgt  gatgctttct  attgtcttta  aacagaatga  tagcaaaagg  14880
aaactgagtt  ctgtaactaa  agtgttctag  ggcaaggtca  tatagccaca  cctactccca  14940
gaaatcttca  caagaagtca  gtgccctcac  ccacagttga  ataacgctt   aaaaaatgta  15000
taataccttg  tttggtctga  tactgtttta  gagatcaggt  atcttttatt  agcaaattct  15060
gagtaatttg  caataaagaa  actgaatttt  aactcagcct  tccagaccta  ccagaccatg  15120
ggcttctttt  tcatattcct  tattaatctc  cagaagactt  ttttttttcag  atcagtgccc  15180
tgtgacagct  gcttcataac  tcttgacaat  ggttagcatc  ctagtccccc  cataagctac  15240
caagggtgaa  aagtttatct  ctctatatga  tccctgtata  atgctgtact  ctttgatctg  15300
ttcttaagct  tcttcagctt  ctcgtaactg  ttgtgtttgc  ctctaaaagc  agtgtttctc  15360
aagctttaga  tccttgaaca  agcattaagt  acaaatttac  tagtaccctt  atcccatctt  15420
tccaaagat   tgttctatgc  cccctattg   tatggtcatc  aaagaataaa  agatgagaat  15480
agaaggtgct  tcttgttggt  gggggtgtct  gcagagtccc  aaggcagaac  agtcctgatg  15540
tggtgcaggg  catcacacag  aggaggggggc  tgagtggcta  gctcaggtct  gtcttcctcc  15600
tcacctaaag  ccagcagtcc  catcctatat  aacccattag  tccatgacat  aacttggtca  15660
cctcttaaaa  gcccaacttc  caatactgcc  acattgggga  ttcagtttca  atgtgagtgt  15720
tataggggac  acacatgcaa  accattgcag  agttataaca  gttttaatac  aggattctag  15780
ttgtgtttgt  atttagtata  atactttgga  taaaatcatg  ctcttcattt  ttcactattg  15840
acttttttct  tactctcata  ggaaacgtgt  ccctgatcac  caccctgtt   aagcattccc  15900
acgtgctgtc  gatctttgga  ccagtttcta  gcaaagttgt  gtttgaaaga  tactctatta  15960
aagaagactg  tggaatctgt  ttatcggtgc  ccattatatc  cttaagtttg  gatatttagc  16020
tgaccttcgc  tttaacatag  gtctaattta  tttgccgtgt  catttccat   acaaatcagt  16080
tgatttaaaa  aagttcattt  ctcatactgt  gcattaaaat  aaaaatttga  acaattactt  16140
```

2115

ggttct   16146

<210> 2068
<211> 100
<212> DNA
<213> Homo sapiens

<400> 2068
ggtggatcac ttgaggtcag gagttcaaga ccagcctggg caacatggtg aaaccccatc   60
tctactaaaa atacaaaaat tagctgggca tagtggtggg   100

<210> 2069
<211> 1744
<212> DNA
<213> Homo sapiens

<400> 2069
attcaaggct cactccagtc cacgtttcta gcttccgtct ccctcccct gcacatacta   60
ctgcatgtac ctccacagtc ttcccttttg ctttgctggc atctcatgtc tttgttgcct   120
atccaagctc cctgttgaaa ttctatccat acttataatt aacatgtccc ttgattcata   180
cagactttat cagcctgccc ttagtttctg tcagacagaa ttaagtcctc tgttcccata   240
taaagcagat ctttatagct gttttagtag atattgttta tatatctctc tctttcacag   300
ccccttgtaa cccatctcat tcccatattc tctttcaacc cccatctctg attacagata   360
gaaagggtga taagtttgtg ggctgtgtct ctttaatctt gtacctccac agcatctagg   420
acagtgtctt gcctaaagca aggatggaat taacatttgt taatagacgc ttatctgtca   480
gtcttactat cctcaccctg cttcataagg aaattatatt ttatttatat tttatttcaa   540
atcagtaata ctgcctgtca catcactaaa acctcaaaaa acagaaatgt ttgaaataag   600
aattttcagg tttgccttgt gataactgta tactaactag ttgaaagtat ggattcagta   660
tcttcaaagt gttctgattt gctaggactc actgttttct tgtgtttaat cttcagtttg   720
tgaggtcatt taatttgtag catttgcaaa tgttatactg aaaaactctg agaatgaaat   780
aagtcactat actacgtatt tttataaata aggaagtgca caattatgtg acttcacatt   840
tcttgcttgc ttgcttttt tggggtgggg acagagtgtt gctctgtcac ccaggctcga   900
gtgtggggtg gtgtgatctc tgctcactgc aacctcctat tcccaggctc cagtgatcct   960
tctgcctcag ctgggactac aggtatgcac caccatactg gctaagtttt atattttttg   1020
ttgagatgaa gtttcactgt gttgtccagg ctggtcttga actcctgggc ttaagtgatc   1080
cacctacttc agccttccaa agtgctggga ttacaggcag gagccactgt gtccagctta   1140
cattttttgt ataatcaaca ttagccagag taaccacact ttagatctgt tggtcttcag   1200
gaaaagcaat atgtgtctgg atgtggtggc tcacacctgt aatcccaaca ctttgggagg   1260
ccgaggtcgg aggatcacct gaggtcagga gtttgaaacc agcctggcca acatggtgga   1320
actccatctc tactaaaaaa aaaatacaaa aattagccgg atgtggtggt gcacacctgt   1380
aatcccagct acttgggagg ctgagacagg aaaatcactt aaaacccagg aggcggaggt   1440
tacagttagc tgagattgcg ccactgcagt ccagcctggg tgacagagtg agactctgtc   1500
tcaaaaaaaa agcgaagtta catgcaataa aatcacacag aaaaattatt tttaataaaa   1560
aattaaaaca attgacagat atcagttata tgatttattg ttccaactgt tatatgtgta   1620
tttctgagtg cccttttggct tcttgcccgg tggtacttga agtcatagga taaacatggc   1680
atattttcct taagtgtcaa tattactcaa caaatatagg ttaaaaaagc attctatctg   1740
atgt   1744 .

<210> 2070
<211> 94
<212> DNA
<213> Homo sapiens

<400> 2070
acgtgcaggt ttgttacgta tatatacatg tgccatgttg gtgtgctgca cccattaact   60
cgtcatttaa cattaggtat atctcctaat ccta   94

                                   2116

```
<210> 2071
<211> 199
<212> DNA
<213> Homo sapiens

<400> 2071
tgcaacctct gcctcccgtg ttcaggtgat tctcctgcct cagcctcctg agtagctggg       60
attacaggca tccaccacca cgttcagcaa attttttgtat ttttagtaga gatggggttt      120
catcatgttg gccaggctgg tctcgaactc ctgacttcag gtaatctgtt ctccttggcc      180
tcccaaagtg ctgggatta                                                   199


<210> 2072
<211> 11597
<212> DNA
<213> Homo sapiens

<400> 2072
cggtcacgta actagtgagt tgtgcagcta gggttagaat aaacagattt attttttttt       60
tttcttagaa acagcaatta acaatgtgac tcctaatcaa aagaaaagag atgtccttgg      120
ggcttaaagt actatggtgg gagtcttgga ctgagtaggt ttgaaaatac aattttatga      180
tcgtggagta ctaggattta gtcattttga tgcagagcat ttcctgatca actgctgttg      240
tggagtgtac tgtccaatag aattctctac aattaaggaa atgttctgta tctcaagaga      300
ttgttcttaa tggtggccag tagtcatgtg accgttgagc atttgaaatg tggctagtgc      360
tactgaagaa tggaattgta aattgctttt aatctaaatt ttgcctgtga tattattggc      420
tgtgggtttg ccaaaatttg ttttttaaa gaggaaaaga taacggactg ttggctgctt      480
tattggacag cacagctagc atatagatgc agataggtag tataacttgt ttgtagttta      540
atataaatgt tgtattttgt aattaggcca aatttgagtt tcatcatggt gactatgaaa      600
aacagtttct gcatgtactg agccgcaagg acaagactgg aatcgttgtc aacaatccta      660
accagtcagt gtttctcttc attgacagac agcacttgca ggtaagcagc ttttttgaaa      720
accacttaca ggctcattca aaaacttatt ggttagtaaa cgttttatat acaagttact      780
taattgttgt gtcccccaaa cactgcatta ttttgaagt tatttaaaaa gcaaaaaata      840
ggctgggcat ggtggctcat gcctgtaatc ccagcacttt ggaaagccga ggcgggcata      900
ttgcttgagc tcaggaattc cagaccagcc tgggcaacat gacgaaaccc catctctaca      960
gaaaatataa aaactagcca ggcatggtgg cgtgtgcctg tagtcccagc tactggggag     1020
gctgaagggg gaggattgct tgagcttagg aggctacagt gagatcttgt cactgcactc     1080
cagcttgaat gacagaacga gaccctgtct caaaaaataa aatgaatttt taaaaaagta     1140
tttcccaggc ctcactgtag aacaatggtt cccaaatttt gctgcatgtt acagcaacct     1200
ggcaagcctt tttttttttt ttaaacggga aaaacccac ctccttcgaa gcttttaaaa     1260
gtcatgattc tagtgaacag tagtgagaac tattgcccta aagcgtgtct accagatgtg     1320
tgggcaatgg atgaacatca cttgagaact tgttaaaaat atagactctc aggctctact     1380
aatcagagtc tgcactttaa acagaaccct caggtgattt gaaacacact ttgtttccag     1440
aagcactgac ctggacgttt ttttttttct tgagagggag tctctgtcgc ccaggctgga     1500
gtgccgtggc gcaatctcag ttcgctgcaa gctccacctt ccgggttcac gccattctcc     1560
tgcctcagcc tcccgagtag ctgggactac aggtgcccgc caccacgccc agctaatttt     1620
ttttttttt tgtattttag tagagacagg gtttcaccat gttagccagg atggtctcaa     1680
tctcctgacc tcatgatctg cctgccttgg cctaccaaag tgctgggatt acaggcgtga     1740
gccaccgcaa ccggctgact tttaaatct aaaaggatga gggacatata tttaaaagat     1800
ccacatttat ttcaaataag cacttccatt tgggcacagt gtctcacact tgtaatccta     1860
gcattttggg aagccgatgg gggaggattg cttgagtcca agaccagcct gggcaacaga     1920
gtgagacgac atctctacaa aaaatcaaag aaattagccg gacattgtgg cgtgttcctg     1980
tggtcctagc tactctggag gctgaggcag gggagaatca cttgagccca ggagtttaga     2040
gttgcagtga gccatggcac caacacactc ctgcctgagt aatgcagcga gaccccatct     2100
caaaaaaaa aaaaacaccg ccaacaacaa ataaccactt cccagttaag cagcaatcca     2160
agtattgcaa tttagttttt agatgcagcc acttgctggc tgtatgatct tggacaggta     2220
actgctgtga gcatgttgct tctgtgaaat tgaacaaatg ataatcctaa ggttgttaaa     2280
tttaacgtaa ggttgttaca tttaaaatta actaatacaa gtaaagtata ttacatatgt     2340
ataggtttat ttacatttgt aggctacttc agacatcttc aaagtcagag tccttatttt     2400
gcctttagta ggtgctagat agtgaagaaa agatgaactt gtaattaag ttggatgttc     2460
aaatggtaac tactttttaa aaataagggt tttgatttaa ctggtaatac tttggctttt     2520
ttctagtccc ttaccccagg atatgcttaa atcttttatt tattttttga gacaaggtct     2580
```

2117

```
caactctgtc accacgctgg agtacactgg catatggatc atggctcacc gcagccttga   2640
cctcctgggc gcaggttatc cacctcagct tcccgagtgg ctggactaca ggcgtgtgcc   2700
accacatcca gctaattttt atatttttg tagagatggg ttttcgtcat gttgcccaga   2760
atggtcttga actcttgggc tcaagcaatc ctcctgactc agcctcccaa agtgctggga   2820
ttacaggtct gagccaccac acccagcctt aaattttac ctattccttc atcctctcac   2880
tagcttctat tcttaccaca tctgctttat cttcctctat ataaaaatga cttcaaactt   2940
ctcaaaatct gtccccatga aatgccttta gctttaattt cttctagcaa gtagtctctg   3000
gtttacttcc ctaacttttt atcttctaat tctgcataaa ttttcctt atcttatatg   3060
gcaagatttt gtctgtctag aatatggata gggactacaa tttgtccctt actctgtatg   3120
ttaagatgtt taataaattg tgggaaatgg acttcatgtg acagttacgc taaagtctta   3180
tttttaaaaa atattaaaat gtttccct tccagactcc aaaaaacaaa gctacaatct   3240
tcaagttatg cagcatctgc ctctacctgc cacaggaaca gctcacccac tgggcagttg   3300
gcaccataga ggatcacctc cgtccttata tgccagagta gagtactgac cagcaaaatg   3360
gagaagatca gagaatgcag cagcagtttt ttttcttgtt ttcttaccac tttattcttt   3420
cagagtttaa agaaaatgga ctcatgcaca gaacactatg cattttgaaa cttgttcatc   3480
ctggattttt ttaaatcatt tttatctcag aacttaaaca aaaattagat gtcgtgcacg   3540
gactgtgtga aagaagatgc tttgcatatt tgctgcactg catcagtatc ttactaaaaa   3600
tgtgaaatga aaggactatt gtacactgaa atgcttaaat gtatctgaaa gcacaaggtg   3660
atactcattt ttatggtctt cccatttgtg ctggttttg cctctttgac atctgtcatc   3720
agtatttaga gggtgagaag tgaatgtaac aggtataaat aacattttta aaaacaataa   3780
ctttgctata atcacagttg ttccagagca ctgtcagata cattctaatg accagaactg   3840
gtttaaaaaa agaaaataca accatgggaa agaaatctta aatgaaaaac gcatctcatt   3900
gtaggcattt ttgcctcata tttactggg ccatgtttgt ttcctggtac tcatgtattt   3960
ttttttccaa gatctcttc cccaagttgc tattgtaaga gtattctgct gcgtgtggat   4020
gcagttatac acattaaagc agatctggag tctgaagtag ctataaagca gctataaaac   4080
agaaatacat gcatagctgc agaaaccatg ataggtagag gacttttctt ttggttttgt   4140
tttgttttgt tttgttttgt ttttggtttt acagagaaga gatttttatt acaaagaaaa   4200
aaattccagt gaattgtgca gaaatgctgg tttttacacc atcctaaaga aaaactttac   4260
aagggtgttt tggagtagaa aaaaggttat aaagttggaa tcttaaattg taaaattaac   4320
cattgagtgt caaagttcta aaagcagaac tcattttgtg caatgaacat aaggaaagac   4380
tactgtatag gtttttttt ttttctcctt ttaaatgaag aaaagctttg cttaagggtt   4440
gcatactttt attggagtaa atctgaatga tcctactcct ttggagtaaa actagtgctt   4500
accagtttcc aattgtattt agcttctggt tggaatttga aaaaaaaga aaaaagaaa   4560
aagaaaacct aaataaaata ggtgaaagtt ccctgactat tcaggtgaat acacaaagtt   4620
tgaagtgtta acttttctt tccatttcac tgatgttact ggtcacctta gagaattatt   4680
tcatagtctg tggctaaata gtaaattcag aagaaaaata cctggcaatt gagtgtgtaa   4740
cttcaacaag aacaggaatc aagaacatac tgtcagcttt caacagttag caacctggcc   4800
ttatgccttg cttcatggga aagggccatt cttaaatttc aaaatgcttt catgtgtcct   4860
cttatttaaa aattagaatc tatttgaaat aacattttga atgtttatta taaccaggta   4920
ctcttctaag ctcttgtctt aacctctcaa cctttggtgg aaatagatgc agaggttaag   4980
taacttgctc aagctcagat cataagtagt ggaggattta aaaccaggct ggctggctct   5040
taaggcctat gctcttaatt taccatgttg aattaattta ccatattgaa ttacacttat   5100
gttcaccaag ttaggcattt tggcagccat tgtttacgtt tttatttgg aataatttag   5160
aaaagttacc agagtaatat gaaagctgtt gtgtaatctt taccctcatt tttattattt   5220
tgccacattt tttcatttt ctctgtacac ttatacctgt gagctatttg agtttgttgc   5280
acactttgtg cttccttacc ccttccttag tacttcggca tatgttccaa gtacaagaat   5340
atttcatata actagagtaa aattaccaaa ctcagggaat gttgatactc tttatcatcc   5400
atattcgttt tgttgtccca gtatccttgg tagcttgttt tagatccccc cctctagagt   5460
acaggatcat tgaatttagt tgttctcagt tgtctttaat gtggaacagt tccttagcct   5520
ttatgtgttc catgacctct atgttttttg gagtacaggg caattttct tgtaaattgt   5580
tactcatttt gcatttgaat tgtttattca tgcttaacgc ccttctcaag tatactctcc   5640
atctgctctt cattgatgtt acttttgagc gcctggtcaa ggtgtcctgg ttttgcccta   5700
tgtgtggtac ttactactag caatctctgg gaagcaatgt gcaaataccc tgttccttta   5760
tcaggagctc ccttggcgat tctttccaga ctaaacccaa aaccagtctt taactatgat   5820
ggttacaaaa tagtgatttt ccaaatctaa tgctttgtcc atttacagca tttgttgtaa   5880
gagagtgttc tatctctgcc atttattatc tacctaaaca ctatggcctc atatttttc   5940
cctccaaatc ataatttgca tgcctttatt attttgagca tctcctttca tgcataagat   6000
actgtaacct ttctgtccca gcctcaagcc ctggagtcag ctgtttctcc aaggagccca   6060
gcttcctttt agtgggaaat actagaagta aacatctggg actcctgtat gctcactgct   6120
gctattgcta ctgtggagtc ttctgccctt tcacagtgga cagatcagca ggcgatctaa   6180
tgtagggaaa ggatttgtct ttaactgtta acttgactta aatttactta aagctgcatc   6240
```

2118

```
cttttttagtc tttagtcatg aaatgttcat taagattccc tgacagaaat caagtaagag    6300
tcagctgggt gcagtggttc acacctgtaa gtccagtact tggggggcca aggcaggagg    6360
attgcttgag cctaggagtt tgagacgagg ctgggcaaca gtgagacctt gtttctacaa    6420
aaataaaaatt aggcgtggtg gcacacgcct gtagttccag ctactcagga gactgaggtg    6480
gaagaatgtc ttgagcctgg gattttgagg ctatgggaag ctgtgattgt atcactccag    6540
cctgagtgac agaagctgtc tcagagtgcc acagtcaact gaacttggag acttctgaga    6600
agtgaacttg gtcttttcaa tactatagac ttggaggttt gagatctgca tggttttatt    6660
ctcggtacaa gaaaaggggc tagtagcatg cttttttttct tccccctcta ttggaccatt    6720
tcctgtaaca ctaacatgct tagcctcaaa cttttcttga ggtcttttt aggcatatgg    6780
ctcaatctat tttattttttc aatatgggct gtagttcata tattttgaag tttcataatc    6840
ttaaaaaaag gaaatgcaag tgtagcttgg cattttagat ctgggaagga cctaagattc    6900
gctaaggatt ggccattgct gtggtctcca tgtgtttccc ctaaatttgt atgttaaaat    6960
cccaacccccc aaggtgatat tagcaggtgg gggtctttgg gaagttatta gatcacgagg    7020
gcagaaccct caagattgga gtaagtgccc ttacaaaaga gaacccaggc tgggcacatt    7080
ggctcacacc tgtaatccca gcactttggg gggccaaggc aggcggatca cctgaggtca    7140
cgagttcgag accagcctgg ccaacatggt gaaccctgtt tctacaaaaa actacaaaaa    7200
ttagctaggt gtgatggcac atgcctatag tcccagctac ttgggaggct gaggcaggag    7260
aatcacttga acccaggggg cagagattgc agtgagccga gatcgtgctg ctgtactcca    7320
gcctgggcaa cagagcgaga ctccatttca aaaacgagaa cccagagggc tcacttgccc    7380
cttccaccac acagtgagaa ggcaccatct atgagccagg aagcggggccc tcacctaaca    7440
ggatctgctg ggccttgacc caggactttc cagcttctag aaccatgaaa aatttctgtt    7500
gttcctagca gcccaaacag aattagaacc attaatttct atttctcctt tagcttaaca    7560
ctggacttta gttttaatct taactgagag tggtcctgct agtttctttg ctttacctgt    7620
ttttaaaaca ctttgagcta agaattttttc acccaattat cacacatgat tagaaaacaa    7680
gatgcttaaa gtgaaaaaag acaccccccac cttaccccta cttgatatcc aggtccttttt    7740
cctccaagaa tatttctagc tgcttctggt tttgctagtt tatttcaaaa attacaattg    7800
tttgagtcaa atctatactt gatattcatt gttgggtttc tttaggtcat tctgctgttc    7860
tctcagtttc ccaggtgttt tgtgtgtctt ccttgtgcta ttaattttcc tgtggccttg    7920
ttggtcagat ccacagaggt aaatgcaagt gttttttcctt gcttcagaac atgtgctgta    7980
atcactatat cttctcctaa tttttgcaggt gacatgtacc ttgaaagaaa atgaatatag    8040
ttaacagcag ataatttttttc aaagggaaag ttgtgtgcat ctcacaacag tgttcctatg    8100
taacttattt tactcctaaa aatagtttta acggtagtat tggtaagctt tctgtactat    8160
caaatgtgaa tggctggtcc taaccaggtt ctattttacc cattccttac ccacacaagt    8220
ttctttttccc aaatatgtga gaagaggttt tcttgcctcc ccttttttttcc ctttacattt    8280
cccacttcac atttatttgg ggctggtgaa agatttcctc cagctttcat ttaatctcct    8340
taacttctta gatgaaatat cacttggtgt ctgtatattg tcctatccat atttacaatt    8400
tatttgactc taaaatgaca atataacaac tataaggaat tgatatgatg tccttacaat    8460
cttgatgatg gactgtctat atttttttaaga gatgtacatc ctagtcactt gtaatcataa    8520
gttgtcttta actcagctgg ctccagctaa ttaaaaaaaa aattggggag atgaggattg    8580
tttaaaacaa atgttaatgt tttaaaggga aataatttcc ttacagtttta ttttttatgtt    8640
tctgcttttt agaaagaaac ctttaaaaag gatatgtatt tttgccatat tcaaaataag    8700
acttcagtat ttatggctag gaggtataag aaaggtggat ctggccgggc acgatggctc    8760
aagcctgtaa tcccagcact ttgggaggcc gaggtgggca gatcacctga gggcaggagt    8820
tcgagaccag cccggccaac gtggtgaaac cccgtctcaa ctaaaaatac agaagttagc    8880
taggcatggt ggtgggcacc tgtaatctca gctacttttg aggctgaggc agaagaatgg    8940
caggaaccca ggaggcagag gttgcagtga gccgagatcg cgccactgga ctccagcctg    9000
ggcaacagag caagattcca tctcacaaaa aaaaaaaaa aaaaaaaaa aaggtggatc    9060
ttattgctgg aaagaacagg cttgtcttta attcacatac ctcaatgtaa agaaatgaaa    9120
aatagtatgt ttagtagtag tttggccagt ttttattatt tccctaaatt ttgtcttaga    9180
aatcaagaat tttggctaac agccattaac ttaaactgag ggaagataag gaaccctttg    9240
tgctacagat gagtaaacat taagtccggg gaatttggag attgacattt tgtcagtaat    9300
actctaaaat ttcccctttt gttgtttttgg aacctcgctt gttttttaacc taagtcacag    9360
tctaacaggc atcctcagtc tgtataatat aggacttgat gtgcaggggt ggagtaaatt    9420
tggtaccatg tcaagtaaat caaagagtga atcatgaagt gttaactgac tgaaacatta    9480
ttcatttact tttgaaatat ctctaacttt tgaaagacca tgtcctagtt tttgttgaag    9540
tgaatcagtt tttgaagcgt aggcagctct tgatggccaa tgcttttggc aacacatatt    9600
tgaaaggcca aaactatgtt tgacttactg aaaattcctt agggttctaa aggcaaaagt    9660
accttagtag atcatgaaat gcagtgctag gtttgaagat ctctctgctc ttaatagaga    9720
ctttttaggga aaatcaagtc atctactgat ctcacctctt accacatgaa ataaggactg    9780
ctgaatatgc acaccagtaa cataagcaga gcctttcttt tctgtacatc ttaatttcaa    9840
aaagagcatt tggctgcatc ttgtaatttg cttattgtac cctcaattta agttattccc    9900
```

2119

```
atgaagaggg actgaatgtt tcttaagtaa acttgataaa atatttagat tccttaaaag    9960
cctacattgg ctgggcgcgg tggctcacgc ctgtaatccc agcactttgg gaggccaagg   10020
cgggcagatc acaaggtgag gagatcgaga ccagcctggc taacacggtg aaaccccatc   10080
tctactaaaa atacaaacaa attagtcggg catggtggca ggcgcctgta gtcccagcta   10140
ctcgggaggc tgaggcagga gaatggtgtg aacccgggag gcggagcttg cagtgagccg   10200
agactgcacc actgcactcc agcctgggcc acaaagcgag actccgtctc aaaaaaaaaa   10260
aaaaaaaaag cctacattat ttccattacc ctcatatcta ctcacaatgg ctctctcaac   10320
ctgacctctc agttagttac attttttgttg cttaggtgga aaaagcagtt gtcttgaaac   10380
taaatccctg tgcccagctc tttctttatt gaatggggct gcagtagtac cagtttatgt   10440
tggaattgag tttcttacat tttggaagtt tgaccctgag gggcactgtt ccctgatcat   10500
gtagtttaac tcacagaaca tgtctgtgta gtcacaggga gagatccagg attgctgccc   10560
attcttaaaa ctcaacactt tgggaggctg aggtgggtgg acactggagg tcaggagttc   10620
aagaccagcc tggccaacat ggtgaaaccc cgtctttact aaaaacacaa aaattagccc   10680
agcatggtgg cgcacacctg taatcccagc tactagggag gctgaggcag gagaattact   10740
tgagccccag aggcggaggc tgaagtgagc cagattgtgc cgctgcactc cagcctgggt   10800
gatggggaga ctccgtgtcc aaaaaaaaaa aaaaccccca gcaatggtgt tcagtttgtt   10860
agagtaagat tataatgtgt atatgaactc taactttact ttgaattgta tgtactcaat   10920
acaatcctca tagtgttata agtggtattt ttaaaattaa ataatattta ttttttgtag   10980
agatgggggt cttgaactcc aggcttcaag caatcctctt gcctcggcct cccaaagtgc   11040
tgggattata ggcgtgagcc actgcgtctg gccctgaatg gcactttaa ggactgtatg    11100
aaacagttat gagccatcag tttgtgattt ttcccctgc atcagtatac acattaaaag     11160
ctgaatgttg ctcttttgaa tgtttgggat cattcccttt ttactattga tacacactgt   11220
acttgcaaat taactgctct agttctagat tttaaggctg gaatattta ggacaaaatc     11280
tataggtgca gttaaggaga taagcagcta attgaatctc atgcgttact aataatataa   11340
atgtgtttag tctcagttgt ttagacagtt atcacacaga agggatttgg aatacagttt   11400
ggatacatac gttatgttca tatcgacact gactccgggt gctcccttt ccgtgcatag     11460
cagagccatt gttgatatgt tatctactaa cgtggctgtc aaaccgccgt ggagagtgcc   11520
tattgcattg gtatgctctt cttctacttt catttcacaa atcactttcc caggagcagc   11580
agagacaaga gtaatct                                                   11597
```

<210> 2073
<211> 22073
<212> DNA
<213> Homo sapiens

<400> 2073
```
accctctccc gcccgctcca cccgggcggg aattgtttcc tcgatcaaat gagtgaaaac    60
ctgagtgatc ctgtgtctcc cgtggtgcga gtgagtcgct gccgctgaag gctaagggggt   120
gggggtggga cttgcgggggg tggaaggcta ggtggtctcc gggctccgcc tgggatttgg   180
gagaagaacc cgcctccttt gcctcggcaa tgctcacaag aagataaatc gcactcccca   240
ccattttgaa cgggggcaga tccacaggga agtctccctt ggggaatgta ggactagttg    300
caggctgggg gtgttgggaa cccgggcatt aatcaggtct aaccacagag ccggaataat   360
taataccgta ttatataccc cttttccttc tgccgtcatg attctccttg gcagcagcgt   420
tagcagccgc ctgagggtga aaatgtgggt gatggggaag ttggtaatga ctccgctgtt   480
ttttctcatg gctcctttgg gccacagctg cccgccccccg gtatacactg tagttgattg   540
cagggaaacc ctgtacctct cccttttcctt ctctaccgat tttgcacttt tctctatgct   600
caccaccaag tgtaatcaat aacaagcact gacaatacat agcaatagtg aaatctgaaa   660
taactaagaa ttaggtacta cagccatgga gctggctggg taaaatctaa ttggatatttt  720
cagtttcatt cacctaccct gttttggtgt ttggttttgg ttttggtttt ggtgagtttt    780
ttttttttt ttttttggaa agcaaggatc acacttcccc ctccctgttc cttaatccct    840
tttctaaaaa gggggggaaaa tccggatgga ttttagggat tggtctggtg tcagctgtgt  900
tttattgcac acctaaatcc tgattatagg cttttcattt ctccgcaaag cctttatttt   960
ggcagttaag ccaaatgtgt tttccagaaa gttagttatt ttctcctctt tctttccttt  1020
ctttcctccc tttttcccgt ctgaccccaa acgttattgt ccaaacatga ctggacagca  1080
gcttttgttt cttgaccctg taatatgaca gtctgctaat attgacagaa ggtgcagttt  1140
ttgggttata gtcgtgattt tcgctaatca atcatattag caggaaaaaa aatgacttgt  1200
ttctgttgta cttgagtctt aagaaaagt gcccatagtt tagtgacaat ttccaaaggc    1260
tttagtacca cctgtatttc aaaatggggg acccaaactc ccggaagaaa caagctctga  1320
acagactacg tgctcagctt agaaagaaaa aagaatctct agctgaccag tttgacttca  1380
agatgtatat tgcctttgta ttcaaggaga aggtaattta aagttcttaa tggtgaatta  1440
```

```
gcacaagtaa tttttgtaag tgtatattat ttgttactct taaattatta tgaatattag    1500
gttaaagagt ggttgaaaaa aagtctgctt tgtatgctct gttttttcac ccttaggggt    1560
gattctgtga attgagcagt tgcagcatgc gaaaagaccc ttgagcgttc tttggtttgg    1620
aaataaattt gagtctgaag cttagtagta gtatacactg agttgacatg gggtgggcaa    1680
gattacaaaa ttttatatgg agttaacatg ggaaacctta tgatggaatt taaagattat    1740
ctaatgtaga gtataaataa gatggttgaa agtgtgaaat tgtaatcaga ctgtttatat    1800
gctaaagttt atcctgtttc ttaaactgcg taatgtaggt aaccttttct cttacattta    1860
atgaagtaga atacaccttt taggagcaat taaatactga aatggttaat ttgtgtttag    1920
aagtgtgatt ttcttttttta cttagagttc attttgcctt gtatagaagt acagttttta    1980
aaaactcaaa atgacctaga ggaagtttca tttttagggg cggtggaggt cttaatcaga    2040
attagttccg cagttaaata gcaaacagta agttgtgagt agtcaaggat gggatgataa    2100
gagcagtatt ttttgcaact taaaatgaac attttcttaa attatcagca aggcttattt    2160
gaccaaagat gaggttatga atgtaaggaa gtgctacttg gattttggtg cttaaattgt    2220
tagctaattt cagatcagaa atacaatctt agtgtggtat ctattaagta tctggaagtt    2280
ttccaggttt ccccctactg tttaactctt attatttttg ttgctgagac aggcctcact    2340
gtattgccca ggctagtctt gaactcctgg gctaaagtga tcctcctgtc atggcatttt    2400
aaagtgctgg gattacaggc aggagctgcc acgcacagcc ccaactctta actcctaaaa    2460
ggttatttgt atttaagaac attcttagct gctgaagtat agcattgtga agtgattttt    2520
aagtaatttt tgaagtgact gtcccaagat tgggtggtat caaggactta catctccact    2580
tttgtttttgt tgacaagctg actcaaaatt gatgagattg gattttagtt gaagatgata    2640
cagtgtatgc tctttaaata aatccaagat aataagtagt gagaccatat ctttgtattt    2700
aatctatata ttgccccaaa ttgcaccatc ttaattcttt aacaccaacg ataatctggt    2760
tttattctgt gaatggacag tgtccatgca gttgccctga ataattcatg atatatactt    2820
aatagtacag aattttaaaa agtagtttag tgatgcgtac ttggtcttga gtagtattaa    2880
aagagaactt ggtgtgcttc tttttagtct ttcaaatatt gatggttttg gctgggtgca    2940
gtggctcacg gctgtaatcc cagcactttg ggaggctgag gcaggcggat cacttgaggt    3000
caggagttca aggccagcct ggccaaatgg tgaaaccctg tctctactga aaatacaaaa    3060
attagccagg tgtggtggcg caggcctgta atcccagcta ctcgagaggc tgaggcagga    3120
gatcccctcg aacccaggag gcagaggttg caagtgagcc aagatggtgc cactgccctc    3180
tagcctgggc aacacagtga gactccatct caaaaaaaaa aagaaaaac cagaaatatt    3240
gatggttttg ataatgtaat attgagaaag taatggaaat tggcccatat aaggaataaa    3300
actattcatt tgtctgaata gcgttgtttt aaaactggtg agattttaa ttttaagaag    3360
tattgtccaa aatagtgcta tggataccat tatgctataa aactcaagca ttaaacattc    3420
taatgacagt ttgtacatgt atggttggag ggggaggtag gggaagaaca gaaggaatta    3480
cctatctgaa aatgtgtttt cagtgtataa gttactgcag acagttaaga attttgtgga    3540
gttaatgtta catgacattg taatatgaac tgagtgttaa aaggctgtgc tccctgtggg    3600
ttaatacacc attttctttt cttctagaag aaaaagtcag cactttttga agtgtctgag    3660
gttataccag tcatgacaaa taattatgaa gaaaatatcc tgaaaggtgt gcgagattcc    3720
agctattcct tggaaagttc cctagagctt ttacagaagg atgtggtaca gctccatgct    3780
cctcgatatc agtctatgag aagggtaagt tctgccttaa gtcttgactt gataaagttt    3840
ctgtggatta accttgcatt tccccgcccc ccgaacccccc cttaaagtgg atagttatga    3900
tagtgaccag tctcttcagg taaatttgtc tttgtgccat gttgataact gggatcatga    3960
ctttaaagca ttgtgtttat aggattagaa aaacacgttt ttttacgcca gaccattctt    4020
atgtggatga agtatataaa gggatttctt taatctgtgt taggtgttga tgatctcgga    4080
cttttttttt tttttttttt tttgagacaa agtcttgctc tttcgctgag gctagagtgc    4140
agtggcatga tcttggctca ctgcaacctc tgccctcgcg cattcaaatg attctcctgc    4200
cttagcctcc cgagtagctg ggactacagt tgtgcgccac catgcctggc taattttttg    4260
tgtttttagt agagatgggg ttttgccatg ttggctaggc tggtctggaa ctcctgacct    4320
caagtgatcc tcctgccttg gcctcccaaa gtgctgagat tacaggtgtg agccactgca    4380
ccctgccagt agccaactgt ttttaataat ttaagtgtta tgcagaaagt ttaaaaattt    4440
ttgaagtagg tttgtttttg aaaacttgac cttgagtaaa acatggacaa ctttgttgta    4500
ttaggctcat aatattgtgt attattattg tggataaatg tcttatgtct ccgtttattg    4560
tatttccttt tttgggggga atatgaatat aaggaagtgc ttccagcttt gtaaacttct    4620
gcaacatgtt aaaagttaat ctgggcatac ctgaaccaag agatcccac agttacttgg    4680
ggagaatgct ggagataacc agatactggt ctggaagaaa ttatggacct tcaaaaatta    4740
atatgctggc tacaataatg aagcagaagt caggaatgga gaaaagtagt tttctatcaa    4800
aataaaaata gcatttcagc tataatagga tagtgattca tattaggagt tctaagacat    4860
ctttttaaat agattgattt ttaaaggtgg aaataaaggt tcagggtctg acaatacaac    4920
agatatcaga gattttgttg gagttttcac catgcactga taagtctagg tcttggtgtt    4980
aggagcattg gactgagtgt atgtgactct ctgtaagata aaaattaaaa ttagagccag    5040
gcacagtgac ttagcctgta atcccagcac ttcgggaggc tgaggtgggt ggatcacctg    5100
```

2121

```
aggtcaggag ttcgagacca gcctggctga cgtggtgaaa ccccgtctct attaaaaata   5160
caaaaaatat tagcggggca tggtggcaca cacttgtaat cccagccatt cgggaggcta   5220
agtcacgaga atcgcttgaa cctggtagac ggaatttgca gtaagcgaag attgcaccat   5280
tgcactccag tgtgggccac aaaagttagg actctgtctc caaaaataaa aaattacatc   5340
atgagctatt cagattataa actattatgt ttacttccta agatataaaa tgatatatgg   5400
tagatctttt gtacttataa aatgttttta taggggaacc ctataatttg tgacatggct   5460
tgatgtagct gtttctttaa aagtaaactt tttttttttt aatcatttta taggatgtaa   5520
ttggctgtac tcaggagatg gatttcattc tttggcctcg gaatgatatt gaaaaaatcg   5580
tctgtctcct gttttctagg tggaaagaat ctgatgagcc ttttaggcct gttcaggtat   5640
tttggtctaa agtgtgatga gtatttcaat atgtgaaaac tactagaata taatagggtc   5700
taacttgaga aattctttgg gaaaatggtt tctgatagtt ttatttcacg agtctccct   5760
atttagaata ttgtgatgca agagaagaaa gcgtttggat tatagaatct cttgacagtg   5820
tggtggttcc acctgcccag tgtggctttg aaattatgac tagagaaaat cttttaaagt   5880
ggacatttac tgatttatag aggggcccac agatgagctt ctgagatctg taactcttga   5940
agccttcacc acacatcctt ctaaaaccgt atatttaact gctgcttccc aaaggaatgt   6000
gatctgaaat gggtgaagaa atcatttgt agaagttgat ctgtatataa aattatagaa   6060
gaaagaagta aatttagtag tcattcttaa ccttaaaatc ttgctgactt ttgactgttt   6120
gtcatggtat actagacatt gctcaagtga atcccccctc tagtgttaag ggcatttact   6180
catgttgaac ctagtttat ttacagtata tttgtatgca tagaagatgg aggtccacca   6240
aagtgttaat tatgcttagt tgtaggtcag gtatagctaa ctttcctttt ttaatatata   6300
tatttacatt tgtgtttcct ttataattta tggcatagat tgccacgatt ttcttaagta   6360
tacttttata atcagaaaaa tgatattaag gactcatttt aagtacacta aatcaaatat   6420
tagaaggctt ctttatttta agctaattgt gaggattatt tgtcatttaa aacttttgct   6480
tctacttatt accctgaagt atctttgtgg tgcttatgtt tttcacagac tgtataaatt   6540
gatatactct cccgccccat ggtaatgttg ctacacataa gctctaataa ttatcatttt   6600
taatgtttta agattaattc aactaagttt taaaaataat ccattggtta catacataag   6660
aaagtactgt atacagattc ccctgactta taatggttcg acttaagatt ttttcaactt   6720
taccatgatg tgaaagccat atgaattcat tgtgctcctc gatttatgat gggactacat   6780
ccaggtgaag tcattgtaaa ttggaattgt tgtaagttca aaagtcactt tttgatttaa   6840
aatacgtgta acttacactg ggtttatcag gatgtaacat cacaagtcgt ggagcatctg   6900
tatttcggtc atttaatgga tgatatctga ctgaagggag aaaatgaata taaaaggcat   6960
gaaaacagga atagaaaagg catgtttaaa gttctcagcg cagggctgat aactctagct   7020
gctctctgga ggtggtgtta ggatttgtt gttttttagt taaggatttc ccactggaaa   7080
aatgtaggtc tgcttattac agtatgtttt caaattcta ataccctgcc tttcccactg   7140
ggaccttatt tgaaatagtt gagttaactt tagtcttgtg tcaaatagta ctctttgaag   7200
tcatggctga tgtttattga gagttgactg tactagtttc agcttttttt ttttttttt   7260
tttgagacag agtctcactc tgttgccaga ttggagtgca gtagtgtgat cttggctcac   7320
tgcaacctcc tcctccttgc aacctctgcc tccgcctccc tggttcaaat gattctcctg   7380
ccttagcctc ccgagtagct gggtctacag ggacatgcca ccacgcccag ctaattttg   7440
tattttagt agagacgggt tttcaccatg ttggccggga tggtctcgat ctcttgacct   7500
cgtgattcac ccgcctcggc ctcccaaagt gctgggatta caggtatgag ccaccatgcc   7560
cgtcctttt ttgagacagg gtcttgctct gtcgcccaag ctggagtgtg gtggcgtgat   7620
cttggctcac tgcaacctct gcctcccagg tttgagccgt tcttgtgcct cagcctcttg   7680
agtagctggg attataggcg catgctatga cacccagcta attttgtat tttttttgta   7740
gagacggagt tttgctatgt tggccaggt ggtgtccttg acctcaagtg atctgcctgg   7800
cttggcctcc caaagtggtg ggattacggg tatgagccac cacacttggc cttagacttt   7860
ctcttacttt atatatattt aatctcagtc cttaaaataa ctgggtagat aggaagaaac   7920
tgagacagaa attaggtaaa taaggcccaa ggcagttaaa taggataaaa gcctggactg   7980
actgtgcttt taactcacta ccctgtactg tgaaaattta cctatattaa ttatagaatc   8040
ttaaaattct ggactgagtg taagcagtat gatgtaggta atgactttag aattcaactg   8100
cagtaagtag gttaatattg taagaactaa tttgcttttc tgaagtaatt taaaatgtgt   8160
gaatatccta tatgaggggc cttaaatata actcactcag ttctttctca aagaaaatga   8220
gaaaaggaat ggtaaatgtt aacttgcagg cctctttttt ttgttttttg tttttgact   8280
cttaaagcac tttacttatt tttaaaattt aattaatttt ttgtagagat ggggtctcac   8340
tttgttgccc aggctggtct tgaactccta ggttcaagtg atcctcttgc ctcagcctcc   8400
caaagtgctg agattacagg tgtgagtcac cgtgcctggc cttttgaagc actgtaaaac   8460
ctgaatatat gggtagtgag gatataatcg gaaccagaat aaggattgtt tttaaatact   8520
gagttcttca gtgtactgtg aagtgctggg aggtactact aaaatgtatc tcttcttttc   8580
tcttcattat taatgctact gccaaggtta gctcctcccc tgactgttag aatatttcgt   8640
tacttctgtg ggaattactt cttttcatgct gcttatgaga agttgtgtgt gtgtgtttgt   8700
gtgtgtgtgt gtgtaccatt tcttttcaga taagtggata ttcaatatga tagaattgaa   8760
```

```
atgctaaaga actataagga aggccttttt cagtctcact caaacctttt ttcagtgtgg    8820
ttaccggttc ttgcacccac cctggttgct taccatattg cagctttgtt acttgaatag    8880
tatttcagtt tttaacacat ttgtttttgt gttggttctg tttcctagta tggctgtttt    8940
ttttgttttg ttttgagatg gtgagatggg gtattactct gtcatccagg ctggagtgca    9000
gtggcatagt catggctcac tgcagccttg aactcccagg cccaagtgat cctcccacct    9060
caacctcatg agtagctggg accacaggtg tgcaccccat gcccaactaa ttatttttgt    9120
agagatagga tctcactgtg ttgcccgggc tggtctcaaa ctcctggcct ctagtgatcc    9180
tcccgctttg gactcccaaa gtgctgggat tataggtctg agccaccatg cccagtcagc    9240
gtttatcaga ttacttacca ttactacttt gtcctgggga aatcctctta atctttaaag    9300
gcgcaatcca aaatcataat gttcccgtgt tacttactgt tacttttttt ttttctcct    9360
atagtggttt gatgataaga acccaatttg ggccgggcgc ggttgctcac gcctgtaatc    9420
ccaacacttt gggaggctaa gccagatgga tcacctgagg tcgggagttt gagaccatcc    9480
tgaccaacat aaagaagtcc tatctctact aaaaacacaa aattagctgg gcgtggtggt    9540
gcatgcctgt attccagcta cttgggaggc tgaggcagaa gaatcgcttg aacccaggag    9600
gcggaggttg cagtgagccg agatcgcgcc attgcactcc agcctgggca acaagagcga    9660
aattccgtct caaaaaaaaa aaaaaattg gagttttaca gataaccaca tcttattctg    9720
ggaaaggatt tgaagcaagt tgggttttat atttggctgt acttgtcctc ttcagcagta    9780
taataagccc cttaaggctg aagtaacctt attcctattg tttagtagct aatagcatgc    9840
ttttgatatg cttatgatca tactaataat ttaatatttg aattgtatgg aagtacaatt    9900
cagtatcatt ttacatatgg tatattgtga tgctgtatca tattttatgt tacggtttat    9960
aagaaaagct cctaggtata aaatgctaca tagcaggaac ttggttttc aatgttatta   10020
tttcctactg tttttgacgt aacggcaata aaatttgttt gaaccaaaat ggactaacaa   10080
ttatttgtac aactcagtat tgtctaaata tcatattgtt aaatctaggt ttcttgaatt   10140
ctccatcaag cctggtcatg tcatgtagca tttggtgtct caccatgccc aacagatatt   10200
ttgtgggagg atggagttga tcttcctcat gttaaaagat tgaagggagt gttctgactt   10260
aattgataac agtctttcat aacttcacaa atttttgaga atgacccaag gctaactgtg   10320
ggaaaaattc acataaaaac atagcctatc tatgaggagc aaaactatat ttcagttgtg   10380
ggctttacat ttcatttaac cctcttaact gtcctgtgaa atgggttaca gccttatttt   10440
atagatgagg aagctgaagt ttaagggatt tgcatacggt cacgtaacta gtgagttgtg   10500
cagctaggt tagaataaac agatttattt ttttttttc ttagaaacag caattaacaa   10560
tgtgactcct aatcaaaaga aaagagatgt ccttggggct taaagtacta tggtgggagt   10620
cttggactga gtaggtttga aaatacaatt ttatgatcgt ggagtactag gatttagtca   10680
ttttgatgca gagcatttcc tgatcaactg ctgttgtgga gtgtactgtc caatagaatt   10740
ctctacaatt aaggaaatgt tctgtatctc aagagattgt tcttaatggt ggccagtagt   10800
catgtgaccg ttgagcattt gaaatgtggc tagtgctact gaagaatgga attgtaaatt   10860
gcttttaatc taaattttgc ctgtgatatt attggctgtg ggtttgccaa aatttgtttt   10920
tttaaagagg aaaagataac ggactgttgg ctgctttatt ggacagcaca gctagcatat   10980
agatgcagat aggtagtata acttgtttgt agtttaatat aaatgttgta ttttgtaatt   11040
aggccaaatt tgagtttcat catggtgact atgaaaaaca gtttctgcat gtactgagcc   11100
gcaaggacaa gactggaatc gttgtcaaca atcctaacca gtcagtgttt ctcttcattg   11160
acagacagca cttgcaggta agcagctttt ttgaaaacca cttacaggct cattcaaaaa   11220
cttattggtt agtaaacgtt ttatatacaa gttacttaat tgttgtgtcc cccaaacact   11280
gcattatttt tgaagttatt taaaaagcaa aaaataggct gggcatggtg gctcatgcct   11340
gtaatcccag cactttggaa agccgaggcg ggcatattgc ttgagctcag gaattccaga   11400
ccagcctggg caacatgacg aaaccccatc tctacagaaa atataaaaac tagccaggca   11460
tggtggcgtg tgcctgtagt cccagctact ggggaggctg aaggggggag attgcttgag   11520
cttaagaggc tacagtgaga tcttgtcact gcactccagc ttgaatgaca gaacgagacc   11580
ctgtctcaaa aaataaaatg aatttttaaa aaagtatttc ccaggcctca ctgtagaaca   11640
atggttccca aattttgctg catgttacag caacctggca agcctttttt ttttttttaa   11700
acgggaaaaa acccacctcc ttcgaagctt ttaaaagtca tgattctagt gaacagtagt   11760
gagaactatt gccctaaagc gtgtctacca gatgtgtggg caatggatga acatcacttg   11820
agaacttgtt aaaaatatag actctcaggc tctactaatc agagtctgca ctttaaacag   11880
aaccctcagg tgatttgaaa cacactttgt ttccagaagc actgacctgg acgtttttt   11940
ttttcttgag agggagtctc tgtcgcccag gctggagtgc cgtggcgcaa tctcagttcg   12000
ctgcaagctc caccttccgg gttcacgcca ttctcctgcc tcagcctccc gagtagctgg   12060
gactacaggt gcccgccacc acgcccagct aatttttttt tttttttgta ttttagtaga   12120
gacagggttt caccatgtta gccaggatgg tctcaatctc ctgacctcat gatctgcctg   12180
ccttggccta ccaaagtgct gggattacag gcgtgagcca ccgcaaccgg ctgactttt   12240
aaatctaaaa ggatgaggga catatattta aaagatccac atttatttca aataagcact   12300
tccatttggg cacagtgtct cacacttgta atcctagcat tttgggaagc cgatgggggga   12360
ggattgcttg agtccaagac cagcctgggc aacagagtga gacgacatct ctacaaaaaa   12420
```

2123

```
tcaaagaaat tagccggaca ttgtggcgtg ttcctgtggt cctagctact ctggaggctg   12480
aggcagggga gaatcacttg agcccaggag tttagagttg cagtgagcca tggcaccaac   12540
acactcctgc ctgagtaatg cagcgagacc ccatctcaaa aaaaaaaaaa acaccgccaa   12600
caacaaataa ccacttccca gttaagcagc aatccaagta ttgcaattta gtttttagat   12660
gcagccactt gctggctgta tgatcttgga caggtaactg ctgtgagcat gttgcttctg   12720
tgaaattgaa caaatgataa tcctaaggtt gttaaattta acgtaaggtt gttacattta   12780
aaattaacta atacaagtaa agtatattac atatgtatag gtttatttac atttgtaggc   12840
tacttcagac atcttcaaag tcagagtcct tattttgcct tttagaggtg ctagatagtg   12900
aagaaaagat gaactttgta attaagttgg atgttcaaat ggtaactact ttttaaaaat   12960
aagggttttg atttaactgg taatactttg gcttttttct agtcccttac cccaggatat   13020
gcttaaatct tttatttatt ttttgagaca aggtctcaac tctgtcacca cgctggagta   13080
cactggcata tggatcatgg ctcaccgcag ccttgacctc ctgggcgcag gttatccacc   13140
tcagcttccc gagtggctgg actacaggcg tgtgccacca catccagcta attttttatat   13200
ttttgtaga gatgggtttt cgtcatgttg cccagaatgg tcttgaactc ttgggctcaa   13260
gcaatcctcc tgactcagcc tcccaaagtg ctgggattac aggtctgagc caccacaccc   13320
agccttaaat ttttacctat tccttcatcc tctcactagc ttctattctt accacatctg   13380
ctttatcttc ctctatataa aaatgacttc aaacttctca aaatctgtcc ccatgaaatg   13440
cctttagctt taatttcttc tagcaagtag tctctggttt acttccctaa cttttttatct   13500
tctaattctg cataaatttt tcctttatct tatatggcaa gatttgtct gtctagaata   13560
tggatagga ctacaatttg tcccttactc tgtatgttaa gatgtttaat aaattgtggg   13620
aaatggactt catgtgacag ttacgctaaa gtcttatttt taaaaaatat taaaatgttt   13680
tccccttcca gactccaaaa aacaaagcta caatcttcaa gttatgcagc atctgcctct   13740
acctgccaca ggaacagctc acccactggg cagttggcac catagaggat cacctccgtc   13800
cttatatgcc agagtagagt actgaccagc aaaatggaga agatcagaga atgcagcagc   13860
agttttttt cttgtttct taccacttta ttctttcaga gtttaaagaa aatggactca   13920
tgcacagaac actatgcatt ttgaaacttg ttcatcctgg atttttttaa atcatttta   13980
tctcagaact taaacaaaaa ttagatgtcg tgcacggact gtgtgaaaga agatgctttg   14040
catatttgct gcactgcatc agtatcttac taaaaatgtg aaatgaaagg actattgtac   14100
actgaaatgc ttaaatgtat ctgaaagcac aaggtgatac tcattttat ggtcttccca   14160
tttgtgctgg ttttttgcctc tttgacatct gtcatcagta tttagagggt gagaagtgaa   14220
tgtaacaggt ataaataaca tttttaaaaa caataacttt gctataatca cagttgttcc   14280
agagcactgt cagatacatt ctaatgacca gaactggttt aaaaaaagaa aatacaacca   14340
tgggaaagaa atcttaaatg aaaaacgcat ctcattgtag gcattttgc ctcatatttt   14400
actgggccat gtttgtttcc tggtactcat gtatttttt tttccagatc tctttcccca   14460
agttgctatt gtaagagtat tctgctgcgt gtggatgcag ttatacacat taaagcagat   14520
ctggagtctg aagtagctat aaagcagcta taaaacagaa atacatgcat agctgcagaa   14580
accatgatag gtagaggact tttctttgg ttttgttttg ttttggtttg ttttgttttt   14640
ggttttacag agaagagatt tttattacaa agaaaaaaat tccagtgaat tgtgcagaaa   14700
tgctggtttt tacaccatcc taaagaaaaa ctttacaagg gtgtttgga gtagaaaaaa   14760
ggttataaag ttggaatctt aaattgtaaa attaaccatt gagtgtcaaa gttctaaaag   14820
cagaactcat tttgtgcaat gaacataagg aaagactact gtataggttt ttttttttt   14880
ctcctttaa atgaagaaaa gctttgctta agggttgcat actttattg gagtaaatct   14940
gaatgatcct actcctttgg agtaaaacta gtgcttacca gtttccaatt gtatttagct   15000
tctggttgga atttgaaaaa aaaagaaaaa aagaaaaga aaacctaaat aaaataggtg   15060
aaagttccct gactattcag gtgaatacac aaagtttgaa gtgttaactt tttctttcca   15120
tttcactgat gttactggtc accttagaga attatttcat agtctgtggc taaatagtaa   15180
attcagaaga aaaatacctg gcaattgagt gtgtaacttc aacaagaaca ggaatcaaga   15240
acatactgtc agctttcaac agttagcaac ctggccttat gccttgcttc atgggaaagg   15300
gccattctta aatttcaaaa tgctttcatg tgtcctctta tttaaaaatt agaatctatt   15360
tgaaataaca ttttgaatgt ttattataac caggtactct tctaagctct tgtcttaacc   15420
tctcaacctt tggtggaaat agatgcagag gttaagtaac ttgctcaagc tcagatcata   15480
agtagtggag gatttaaaac caggctggct ggctcttaag gcctatgctc ttaatttacc   15540
atgttgaatt aatttaccat attgaattac acttatgttc accaagttag gcattttggc   15600
agccattgtt tacgttttta ttttggaata atttagaaaa gttaccagag taatatgaaa   15660
gctgttgtgt aatctttacc ctcattttta ttattttgcc acattttttt cattttctct   15720
gtacacttat acctgtgagc tatttgagtt tgttgcacac tttgtgcttc cttacccctt   15780
ccttagtact tcggcatatg ttccaagtac aagaatattt catataacta gagtaaaatt   15840
accaaactca gggaatgttg atactcttta tcatccatat tcgttttgtt gtcccagtat   15900
ccttggtagc ttgtttttaga tcccccccctc tagagtacag gatcattgaa tttagttgtt   15960
ctcagttgtc tttaatgtgg aacagttcct tagcctttat gtgttccatg acctctatgt   16020
tttttggagt acagggcaat ttttcttgta aattgttact cattttgcat ttgaattgtt   16080
```

2124

```
tattcatgct taacgccctt ctcaagtata ctctccatct gctcttcatt gatgttactt 16140
ttgagcgcct ggtcaaggtg tcctggtttt gccctatgtg tggtacttac tactagcaat 16200
ctctgggaag caatgtgcaa ataccctgtt cctttatcag gagctccctt ggcgattctt 16260
tccagactaa aacccaaacc agtctttaac tatgatggtt acaaaatagt gattttccaa 16320
atctaatgct ttgtccattt acagcatttg ttgtaagaga gtgttctatc tctgccattt 16380
attatctacc taaacactat ggcctcatat ttttttccctc caaatcataa tttgcatgcc 16440
tttattattt tgagcatctc ctttcatgca taagatactg taacctttct gtcccagcct 16500
caagccctgg agtcagctgt ttctccaagg agcccagctt cctttttagtg ggaaatacta 16560
gaagtaaaca tctgggactc ctgtatgctc actgctgcta ttgctactgt ggagtcttct 16620
gccctttcac agtggacaga tcagcaggcg atctaatgta gggaaaggat ttgtctttaa 16680
ctgttaactt gacttaaatt tacttaaagc tgcatccttt ttagtctttta gtcatgaaat 16740
gttcattaag attccctgac agaaatcaag taagagtcag ctgggtgcag tggttcacac 16800
ctgtaagtcc agtacttggg gggccaaggc aggaggattg cttgagccta ggagtttgag 16860
acgaggctgg gcaacagtga gaccttgttt ctacaaaaat aaaattaggc gtggtggcac 16920
acgcctgtag ttccagctac tcaggagact gaggtggaag aatgtcttga gcctgggatt 16980
ttgaggctat gggaagctgt gattgtatca ctccagcctg agtgacagaa gctgtctcag 17040
agtgccacag tcaactgaac ttggagactt ctgagaagtg aacttggtct tttcaatact 17100
atagacttgg aggtttgaga tctgcatggt tttattctcg gtacaagaaa aggggctagt 17160
agcatgcttt ttttcttccc cctctattgg accatttcct gtaacactaa catgcttagc 17220
ctcaaacttt tcttgaggtc ttttttaggc atatggctca atctattta ttttttcaata 17280
tgggctgtag ttcatatatt ttgaagtttc ataatcttaa aaaaaggaaa tgcaagtgta 17340
gcttggcatt ttagatctgg gaaggaccta agattcgcta aggattggcc attgctgtgg 17400
tctccatgtg tttcccctaa atttgtatgt taaaatccca acccccaagg tgatattagc 17460
aggtgggggt ctttgggaag ttattagatc acgagggcag aaccctcaag attggagtaa 17520
gtgcccttac aaaagagaac ccaggctggg cacattggct cacacctgta atcccagcac 17580
tttggggggc caaggcaggc ggatcacctg aggtcacgag ttcgagacca gcctggccaa 17640
catggtgaac cctgtttcta caaaaaacta caaaaattag ctaggtgtga tggcacatgc 17700
ctatagtccc agctacttgg gaggctgagg caggagaatc acttgaaccc aggggggcaga 17760
gattgcagtg agccgagatc gtgctgctgt actccagcct gggcaacaga gcgagactcc 17820
atttcaaaaa cgagaaccca gagggctcac ttgcccttc caccacacag tgagaaggca 17880
ccatctatga gccaggaagc gggccctcac ctaacaggat ctgctgggcc ttgacccagg 17940
actttccagc ttctagaacc atgaaaaatt tctgttgttc ctagcagccc aaacagaatt 18000
agaaccatta atttctattt ctcctttagc ttaacactgg actttagttt taatcttaac 18060
tgagagtggt cctgctagtt tctttgcttt acctgttttt aaaacacttt gagctaagaa 18120
ttttcaccc aattatcaca catgattaga aaacaagatg cttaaagtga aaaaagacac 18180
ccccaccttt accctacttg atatccaggt ccttttcctc caagaatatt tctagctgct 18240
tctggttttg ctagtttatt tcaaaaatta caattgtttg agtcaaatct atacttgata 18300
ttcattgttg ggtttcttta ggtcattctg ctgttctctc agtttcccag gtgtttttgtg 18360
tgtcttcctt gtgctattaa ttttcctgtg gccttgttgg tcagatccac agaggtaaat 18420
gcaagtgttt ttccttgctt cagaacatgt gctgtaatca ctatatcttc tcctaatttt 18480
gcaggtgaca tgtaccttga aagaaaatga atatagttaa cagcagataa tttttcaaag 18540
ggaaagttgt gtgcatctca caacagtgtt cctatgtaac ttatttttact cctaaaaata 18600
gttttaacgg tagtattggt aagctttctg tactatcaaa tgtgaatggc tggtcctaac 18660
caggttctat tttacccatt ccttacccac acaagtttct tttcccaaat atgtgagaag 18720
aggtttttctt gcctcccctt ttttcccttt acatttccca cttcacattt atttggggct 18780
ggtgaaagat ttcctccagc tttcatttaa tctccttaac ttcttagatg aaatatcact 18840
tggtgtctgt atattgtcct atccatattt acaattattt tgactctaaa atgacaatat 18900
aacaactata aggaattgat atgatgtcct tacaatcttg atgatggact gtctatattt 18960
ttaagagatg tacatcctag tcacttgtaa tcataagttg tctttaactc agctggctcc 19020
agctaattaa aaaaaaaatt ggggagatga ggattgttta aaacaaatgt taatgtttta 19080
aagggaaata atttccttac agtttatttt tatgtttctg ctttttagaa agaaaccttt 19140
aaaaaggata tgtattttttg ccatattcaa aataagactt cagtatttat ggctaggagg 19200
tataagaaag gtggatctgg ccgggcacga tggctcaagc ctgtaatccc agcactttgg 19260
gaggccgagg tgggcagatc acctgagggc aggagttcga gaccagcccg gccaacgtgg 19320
tgaaaccccg tctcaactaa aaatacagaa gttagctagg catggtggtg ggcacctgta 19380
atctcagcta cttttgaggc tgaggcagaa gaatggcagg aacccaggag gcagaggttg 19440
cagtgagccg agatcgcgcc actggactcc agcctgggca acagagcaag attccatctc 19500
acaaaaaaaa aaaaaaaaaa aaaaaaagg tggatcttat tgctggaaag aacaggcttg 19560
tctttaattc acatacctca atgtaaagaa atgaaaaata gtatgtttag tagtagtttg 19620
gccagttttt attatttccc taaattttgt cttagaaatc aagaattttg gctaacagcc 19680
attaacttaa actgagggaa gataaggaac cctttgtgct acagatgagt aaacattaag 19740
```

2125

```
tccgggggaat ttggagattg acattttgtc agtaatactc taaaatttcc ccttttgttg   19800
ttttggaacc tcgcttgttt ttaacctaag tcacagtcta acaggcatcc tcagtctgta   19860
taatatagga cttgatgtgc aggggtggag taaatttggt accatgtcaa gtaaatcaaa   19920
gagtgaatca tgaagtgtta actgactgaa acattattca tttacttttg aaatatctct   19980
aacttttgaa agaccatgtc ctagtttttg ttgaagtgaa tcagtttttg aagcgtaggc   20040
agctcttgat ggccaatgct tttggcaaca catatttgaa aggccaaaac tatgtttgac   20100
ttactgaaaa ttccttaggg ttctaaaggc aaaagtacct tagtagatca tgaaatgcag   20160
tgctaggttt gaagatctct ctgctcttaa tagagacttt tagggaaaat caagtcatct   20220
actgatctca cctcttacca catgaaataa ggactgctga atatgcacac cagtaacata   20280
agcagagcct ttcttttctg tacatcttaa tttcaaaaag agcatttggc tgcatcttgt   20340
aatttgctta ttgtaccctc aatttaagtt attcccatga agagggactg aatgtttctt   20400
aagtaaactt gataaaatat ttagattcct taaaagccta cattggctgg gcgcggtggc   20460
tcacgcctgt aatcccagca ctttgggagg ccaaggcggg cagatcacaa ggtgaggaga   20520
tcgagaccag cctggctaac acggtgaaac cccatctcta ctaaaaatac aaacaaatta   20580
gtcgggcatg gtggcaggcg cctgtagtcc cagctactcg ggaggctgag gcaggagaat   20640
ggtgtgaacc cgggaggcgg agcttgcagt gagccgagac tgcaccactg cactccagcc   20700
tgggccacaa agcgagactc cgtctcaaaa aaaaaaaaaa aaaaagccta cattatttcc   20760
attaccctca tatctactca caatggctct ctcaacctga cctctcagtt agttacattt   20820
ttgttgctta ggtggaaaaa gcagttgtct tgaaactaaa tccctgtgcc cagctctttc   20880
tttattgaat ggggctgcag tagtaccagt ttatgttgga attgagtttc ttacattttg   20940
gaagtttgac cctgaggggc actgttccct gatcatgtag tttaactcac agaacatgtc   21000
tgtgtagtca cagggagaga tccaggattg ctgcccattc ttaaaaactca acactttggg   21060
aggctgaggt gggtggacac tggaggtcag gagttcaaga ccagcctggc caacatggtg   21120
aaaccccgtc tttactaaaa acacaaaaat tagcccagca tggtggcgca cacctgtaat   21180
cccagctact agggaggctg aggcaggaga attacttgag ccccagaggc ggaggctgaa   21240
gtgagccaga ttgtgccgct gcactccagc ctgggtgatg gggagactcc gtgtccaaaa   21300
aaaaaaaaaa accccagcaa tggtgttcag tttgttagag taagattata atgtgtatat   21360
gaactctaac tttactttga attgtatgta ctcaatacaa tcctcatagt gttataagtg   21420
gtattttaa aattaaataa tatttatttt ttgtagagat gggggtcttg aactccaggc   21480
ttcaagcaat cctcttgcct cggcctccca aagtgctggg attataggcg tgagccactg   21540
cgtctggccc tgaatggcac ttttaaggac tgtatgaaac agttatgagc catcagtttg   21600
tgattttcc ccctgcatca gtatacacat taaaagctga atgttgctct tttgaatgtt   21660
tgggatcatt ccctttttac tattgataca cactgtactt gcaaattaac tgctctagtt   21720
ctagatttta aggctggaat attttaggac aaaatctata ggtgcagtta aggagataag   21780
cagctaattg aatctcatgc gttactaata atataaatgt gtttagtctc agttgtttag   21840
acagttatca cacagaaggg atttggaata cagtttggat acatacgtta tgttcatatc   21900
gacactgact ccgggtgctc ccctttccgt gcatagcaga gccattgttg atatgttatc   21960
tactaacgtg gctgtcaaac cgccgtggag agtgcctatt gcattggtat gctcttcttc   22020
tactttcatt tcacaaatca ctttcccagg agcagcagag acaagagtaa tct   22073
```

```
<210> 2074
<211> 1346
<212> DNA
<213> Homo sapiens

<400> 2074
ggaaggcctt tttcagtctc actcaaacct tttttcagtg tggttaccgg ttcttgcacc     60
caccctggtt gcttaccata ttgcagcttt gttacttgaa tagtatttca gtttttaaca   120
catttgtttt tgtgttggtt ctgtttccta gtatggctgt ttttttgtt ttgttttgag   180
atggtgagat ggggtattac tctgtcatcc aggctggagt gcagtggcat agtcatggct   240
cactgcagcc ttgaactccc aggcccaagt gatcctccca cctcaacctc atgagtagct   300
gggaccacag gtgtgcaccc catgcccaac taattatttt gtagagata ggatctcact   360
gtgttgcccg ggctggtctc aaactcctgg cctctagtga tcctcccgct ttggactccc   420
aaagtgctgg gattataggt ctgagccacc atgcccagtc agcgtttatc agattactta   480
ccattactac tttgtcctgg ggaaatcctc ttaatcttta aaggcgcaat ccaaaatcat   540
aatgttcccg tgttacttac tgttactttt tttttttttct cctatagtgg tttgatgata   600
agaacccaat ttgggccggg cgcggttgct cacgcctgta atcccaacac tttgggaggc   660
taagccagat ggatcacctg aggtcgggag tttgagacca tcctgaccaa cataaagaag   720
tcctatctct actaaaaaca caaaattagc tgggcgtggt ggtgcatgcc tgtattccag   780
ctacttggga ggctgaggca gaagaatcgc ttgaacccag gaggcggagg ttgcagtgag   840
```

```
ccgagatcgc gccattgcac tccagcctgg gcaacaagag cgaaattccg tctcaaaaaa    900
aaaaaaaaaa ttggagtttt acagataacc acatcttatt ctgggaaagg atttgaagca    960
agttgggttt tatatttggc tgtacttgtc ctcttcagca gtataataag cccccttaagg   1020
ctgaagtaac cttattccta ttgtttagta gctaatagca tgcttttgat atgcttatga   1080
tcatactaat aatttaatat ttgaattgta tggaagtaca attcagtatc attttacata   1140
tggtatattg tgatgctgta tcatatttta tgttacggtt tataagaaaa gctcctaggt   1200
ataaaatgct acatagcagg aacttggttt ttcaatgtta ttatttccta ctgtttttga   1260
cgtaacggca ataaaatttg tttgaaccaa aatggactaa caattatttg tacaactcag   1320
tattgtctaa atatcatatt gttaaa                                        1346
```

<210> 2075
<211> 2177
<212> DNA
<213> Homo sapiens

<400> 2075
```
caaaagctga cgacttcggt ctgcgccgga agtgcatgag ctgccgatgt ggtgcttagt     60
gattgcggtt tcggtcgctc tcccgtgttt cccgggctgg gtatttgcct cgcaccatgg    120
cggtaaggag gatggatagg gcggggtccg caccagcaaa gctctccagg ggctgtgaga    180
gtgaaaactg agaaagaaca ttaagggata tggggtgggc cagagcgggg cgccatccct    240
ggccagaccg tgctagagct gggctggggg gatggcggcg caggaccata ccaggactag    300
tgccagagcg gggtgggcat cagtaccagg gcaggccaga gatctaagtg acctgaggtg    360
ggggttaacc cagatcggga ctacgccagc ggaggcctga gagaggcacc attcaactcc    420
gctcaggagt acccttggaa gagtcgttag cctaaagcca gactaccacg ggatccagag    480
gcggtattag cttaggattg aattgttcca gggcgagcaa gaggcgattg atcctagctg    540
cgggtgctgg agagatggcg tcagccctag gcagaatgga ctggaggatg ggtggacatc    600
ccagggattt tgctaggttt ctgcactacg gggacctggc tgagttgcgg atggagctct    660
atagctcacc aggctggtgg ggagaatgag gaggaccgtg gcctcctgac ggcatctcat    720
cattcctctg cagcccaagg gcaaagtggg cacgagaggg aagaagcaga tatttgaaga    780
gaacagagag actctgaagt tctacctgcg gatcatactg ggggccaatg taagtgccta    840
cctccttgct tctatgccca cttatagtca gttccctagt cctcagccct gcttggtgac    900
gaggagtggt acccgaaaaa gctctagaag agagctccag tcaaaaagaa atgagagatc    960
tgggcacaga gaaagtgcta actagtaaaa cacaaagaaa atgaaggcgt gagtcgtagc   1020
tgaatttgag agctcttcct acctccaagt acacaaaggc ttctttcctg ggctgagttg   1080
ggtgtcagag gagagtgggt atttgggatt cagggagcag ggccctttct tcaaccctgt   1140
aagaacaacc ttgctcctcc cacagcctgg cctaattctt ggtcagagtt gagggagacc   1200
catggtttgg aggtaacttc tgaccccaac ctgatcctgt gattgcttgc aggccattta   1260
ctgccttgtg acgttggtct tcttttactc atctgcctca ttttgggcct gggtaagtat   1320
ctccatcctg ggaggtggat gagtgcgtag ggtcagtggc tggcctttga taccctcatt   1380
cttgctctgc agttggccct gggctttagt ctggcagtgt atggggccag ctaccactct   1440
atgagctcga tggcacgagc agcgttctct gaggatgggg ccctgatgga tggtggcatg   1500
gacctcaaca tggagcaggg catggcagag tgagtgtccc ccaccgccag cccaggtgag   1560
cggccccagg gctggggccc agatagccca agaagcacag ctacttgtaa cttgaaaagg   1620
gtggaaggga gttgcaactt gaaaagggtg gaagggccca tatgctgtct ttccagcttt   1680
atttctatcc acaggcacct taaggatgtg atcctactga cagccatcgt gcaggtgctc   1740
agctgcttct ctctctatgt ctggtccttc tggcttctgg tatgtgggct ggggggcgctc   1800
ccaagaaggg gcatctaacc ctccccatct tttattccct gcatcttgct tcaagttacc   1860
gtttctcttg taggctccag gccgggccct ttacctcctg tgggtgaatg tgctgggccc   1920
ctggttcact gcagacagtg gcaccccagc accagagcac aatgagaaac ggcagcgccg   1980
acaggagcgg cggcagatga agcggttata gccattgaca ttgtggccac aggccactgg   2040
ccctgggtgg ctctgtcagg gtgcacagcc cctcatgcct ggagcaatga gggtctagtc   2100
caggggccaa aagcagtctg aggtattggg tatacttata ctctataggg tcgttgaata   2160
aatggcttag aatgtgg                                                  2177
```

<210> 2076
<211> 2177
<212> DNA
<213> Homo sapiens

<400> 2076

```
caaaagctga cgacttcggt ctgcgccgga agtgcatgag ctgccgatgt ggtgcttagt      60
gattgcggtt tcggtcgctc tcccgtgttt cccgggctgg gtatttgcct cgcaccatgg     120
cggtaaggag gatggatagg gcggggtccg caccagcaaa gctctccagg ggctgtgaga     180
gtgaaaactg agaaagaaca ttaagggata tggggtgggc cagagcgggg cgccatccct     240
ggccagaccg tgctagagct gggctggggg gatggcggcg caggaccata ccaggactag     300
tgccagagcg gggtgggcat cagtaccagg gcaggccaga gatctaagtg acctgaggtg     360
ggggttaacc cagatcggga ctacgccagc ggaggcctga gagaggcacc attcaactcc     420
gctcaggagt acccttggaa gagtcgttag cctaaagcca gactaccacg ggatccagag     480
gcggtattag cttaggattg aattgttcca gggcgagcaa gaggcgattg atcctagctg     540
cgggtgctgg agagatggcg tcagccctag gcagaatgga ctggaggatg ggtggacatc     600
ccagggattt tgctaggttt ctgcactacg gggacctggc tgagttgcgg atggagctct     660
atagctcacc aggctggtgg ggagaatgag gaggaccgtg gcctcctgac ggcatctcat     720
cattcctctg cagcccaagg gcaaagtggg cacgagaggg aagaagcaga tatttgaaga     780
gaacagagag actctgaagt tctacctgcg gatcatactg ggggccaatg taagtgccta     840
cctccttgct tctatgccca cttatagtca gttccctagt cctcagccct gcttggtgac     900
gaggagtggt acccgaaaaa gctctagaag agagctccag tcaaaaagaa atgagagatc     960
tgggcacaga gaaagtgcta actagtaaaa cacaaagaaa atgaaggcgt gagtcgtagc    1020
tgaatttgag agctcttcct acctccaagt acacaaaggc ttctttcctg ggctgagttg    1080
ggtgtcagag gagagtgggt atttgggatt cagggagcag ggcccttct tcaaccctgt    1140
aagaacaacc ttgctcctcc cacagcctgg cctaattctt ggtcagagtt gagggagacc    1200
catggtttgg aggtaacttc tgaccccaac ctgatcctgt gattgcttgc aggccattta    1260
ctgccttgtg acgttggtct tcttttactc atctgcctca tttttgggcct gggtaagtat    1320
ctccatcctg ggaggtggat gagtgcgtag ggtcagtggc tggcctttga taccctcatt    1380
cttgctctgc agttggccct gggctttagt ctggcagtgt atggggccag ctaccactct    1440
atgagctcga tggcacgagc agcgttctct gaggatgggg ccctgatgga tggtggcatg    1500
gacctcaaca tggagcaggg catggcagag tgagtgtccc ccaccgccag cccaggtgag    1560
cggccccagg gctggggccc agatagccca agaagcacag ctacttgtaa cttgaaaagg    1620
gtggaaggga gttgcaactt gaaaagggtg gaagggccca tatgctgtct ttccagcttt    1680
atttctatcc acaggcacct taaggatgtg atcctactga cagccatcgt gcaggtgctc    1740
agctgcttct ctctctatgt ctggtccttc tggcttctgg tatgtgggct gggggcgctc    1800
ccaagaaggg gcatctaacc ctccccatct tttattccct gcatcttgct tcaagttacc    1860
gtttctcttg taggctccag gccgggccct ttacctcctg tgggtgaatg tgctgggccc    1920
ctggttcact gcagacagtg gcaccccagc accagagcac aatgagaaac ggcagcgccg    1980
acaggagcgg cggcagatga agcggttata gccattgaca ttgtggccac aggccactgg    2040
ccctgggtgg ctctgtcagg gtgcacagcc cctcatgcct ggagcaatga gggtctagtc    2100
caggggccaa aagcagtctg aggtattggg tatacttata ctctataggg tcgttgaata    2160
aatggcttag aatgtgg                                                   2177
```

<210> 2077
<211> 8925
<212> DNA
<213> Homo sapiens

<400> 2077

```
gttggattag ctaagaaaat tttattttgc tccgtgcgtt caaggagctc acacacatgc      60
acatgcatat gcatgcacac acacacatac acacacactc acatgcatac acacacggct     120
aatactgctc aaggcatggc tcctgggcac agagttctgg ggccagaatt ctgctctggg     180
ccctcctcac tctgtcatct cctgcactgc agtccagggt ccagatagat ttccgggata     240
cagcaccttc acacctccag gccaggaccc ttgcttagtc ccagtgcctg caccaggtca     300
tctccgagcc cactcttcaa cgtccttctc actgcaggga cagagcaggg ttgagggggg     360
ttgatggggt tcaggtgggc agtgggattg tgggggggtta cttacaagac ttgcggttgc     420
cgcgggaacg cttgcgttcc ctagcagcta aggcacgagg actgctcttg gtcactgact     480
gcaccagaag gtccatgatc tcatctgatg tatcactggg taaactggag cctgggggtt     540
cttctgggga tgcagtggag ggccccactg tgggcatgat tggggagctg ctctggacca     600
tgcctgagga aggccagata gcaaagtcag gccaaggtgg cactggagcc cattccccac     660
agctgctatg ggcctcacct ctgctgcggc gattgtgtgt ggtgtcctca ggcctgctgg     720
tcagcagact cttcatacta gcatgactgt cagcatctcc ccggcctggc ccgctgctca     780
ctgctactgg gacagagggg ttgctggggg cttccccagc cacacctgag aacttctctg     840
tctggagaaa gaagaagggt gagctgggag gagcgaagga aaccaggag gtggcagtca     900
```

```
agactaagac ctggaagggc acccacctcg gtgatcatgc gtccccgggt cttgttgcgc    960
tcacggtatg tggcctgctt ctgctgctgc tgtagcactc gttcccggca agtccgatac   1020
tcaagcgcaa attcccgcag cgtgtggcag aactgcatga tgcgcacttc acgggccgcc   1080
tgcggggtgt agcccaggta gagcaggaag gcatggaacc taggcaggtc agagtaggga   1140
gggacagtaa gtcctgctta ttgtctgagg gagggtggtg gccgtcctgc ctctcttggg   1200
tccatgcccc tacctattgc agacacggcg gtgcactatc cttagcatgg caacacggcg   1260
ggcacactgg tccaggaagt gggtgaggcg ggcacgcagg gctggggcca gctcatgctt   1320
ggccaagctc cgcaggctct cctcggctgc ccggctccgg cgctccagct gccccaggtt   1380
ctcagtcagc tgttcaaagt ccacctgaga aagcaagggg gtgcacatac tgtcccccca   1440
caccctgtag acaagacatg gcccgaggct gcttctgggc cagagtggcc agcttgggcc   1500
ctaaggacac agacatccaa atctcataga ctagtgcaag agacacaagt ccatctgatg   1560
tgaatgggga gcagaaggtt tactggggga agtggcagtt aaacagaccc aaagactgag   1620
taggtgtggc caggccaata gaggaaagag catttctggc agagggcata gctcacaccc   1680
aggtggctgg agcaagccct ggcacagcag cccaaatggg gagaagggg aggagccagg   1740
cccaggaagc agcgctcctc atgccttgtc cggccttggt tgattctggc aggtgctaac   1800
cttggcacag cgggtcaggg cagggatttc tgaatagagg tcagaggact caggccgggt   1860
ctggagcact agggagcaga gatggtgtag cagtgactgt cgacgcaccg tgtccttcac   1920
ctctgacacc ttctccaggt agctcagctc aaagccgctg ctctgaaagg accctttctg   1980
agcctgggcc tggttggctc cagaaccctg actccccta gtccccatgt actctcactc   2040
acctgggagc cattgaggaa gttgcccacc gctaggaggg tagccaggat gcagcggaag   2100
gtggcattct gtaccagctg ttccataccc actttcaggt caaacagtgg ctcagcaatt   2160
tcctggtatg ggagaccagg gactctcaga ctacatggtc atgatgctta cctgtcccta   2220
ctgactgtcc cactccaaga cccaggtacc cgctccatgc tgtcatagtc cagcttgaag   2280
gcccagagtt gtagacgagc agcgaggccg ccaatggagg caagagtcat caggaagttc   2340
tcggctgggc caggggtat gtcagggttg gccagctggg cttcctcaat cttctgccgc   2400
tcttcctccg tgggcatcat ggtcagtagc ttctgaggat gtagccagag cctgacatgg   2460
cccctcaat gcaggcctga ggcctgaggc attggtcttg acccctcagt catctagggg   2520
aggccccagt gtctggggac tgccctgcag aaatgccaag cccatgccca ccaccagagg   2580
gacaggaaat gcccacctac caaaggagaa ggccagacct ccccccaaca cccatagctg   2640
ggtgacctca cctcaatgcc atccttgctg acagcaaact catcaaagtt gagcagagca   2700
gccttaatga catgcacagg tggcagtgtg gttaggccga tgttgatggc gttgctgcgc   2760
ttggggtcca gcactgtggt cattgtccgg cggccctctc cagctttctg catggttggg   2820
ggaagggcag tgtaagactg aggaagggg cctgacgcgg tggctcacgc ctgtaatccc   2880
agcactttgg gaggccaagg cgggtggacc acgaggtcag gagatcgaga ccatcctggc   2940
taacatggtg aaaccccatc tctactaaaa atacaaaaaa aattagctgg gcgtggtggc   3000
gggcacctgt agtcccagct actcgggagg ctgaggcagg agaatggcgt gaacccggga   3060
ggcggagctt gcagtgagct gagatcacac cattgcacta catcctgggt gactgagcaa   3120
gactctgtct caaaaaaaaa aaaaaaaaa aaaagactga ggaagggact agctgggaca   3180
gcaacctcag agggcactcc aaggccctcc tctagattgc caaatgatcc cacaactgac   3240
aaactggcaa cctggaatgt gtaagtcatg gggatgagct tagattcttt tgagacaggg   3300
cctggctcta ccatctaggc tggagtgcag tggtgccatc atcgcccact gcagcttatc   3360
ttctgggatt ttcctgcctc agcctcccaa gtagctggga ttacaggcgt gtaccaccat   3420
acccaactat ttttttttt aacatttttt tttccgcctc ccaggttcaa gcaattcttt   3480
tgcctcagcc tcccaagtag ctggtattgc aggcatgagc caccacgccc agctcatttt   3540
catatttta gtagagacgg ggtttcacca tgttggccag gctggtctca aactcctggc   3600
ctcaagtaat ctgcctgcct tggcctccca aagtgctggg attacagggg tgagccacca   3660
tgcccggcta atttttttt taacatttat ttattttat ttatttagtt attttgaga   3720
cgaagtcttg ctcttgtccc ccaggctgga gtgcaatggt gcgatctcga ctcactgcaa   3780
cctctacctc ccgggttcaa gtgattctcc tgcctcagcc tcccgagtag ctgggattac   3840
aggtgccgc caccacgctt ggctaatttt gtgtttttag tagagacggg gttttgctaa   3900
tttgaccagg ctggtctcga actcctgacc tcaaatgatc cacctgcctc ggcctcccaa   3960
ggtcctggga ttacaggcat gagccactac acccagacca actttagta gagataatgt   4020
ctcactatgt tgcacaggct ggtctcaaac tcttggatta caggtgtgag ccaccatgcc   4080
cggccacatt tagattctag ttggggcact gctgatccct tgttaggaga ccttggacaa   4140
tttcctactc ctttctttgc cttggtttcc ccatgtggga agtgagtgac tagctccaac   4200
aggtcagatc cttaagctct gattccctcc tgcctccctt ggggctacct tgcagatgag   4260
tggatttacc ttggagggca gcacctcttt ggcacgagac tcaaagaggt gttccagtcg   4320
ggccgtgtcc actgagacag ggtccagtga gcccagagg gtggcgcagg cccaaagcg   4380
gcttgcagag actccatggc ccccagccag cttcagctca cgccagaaaa gttttactgt   4440
cttcctctta gtggggaggg ctgagctgtc aggcactgaa tggggaagag gggcagccag   4500
aggtagaggt ggaggtggtg ggaaggggcc tttgatgggt gggggaggtg gaagtggggg   4560
```

2129

```
agggggggggt actcccgaga gcaggggcag tgggggtgag ggagctggga tgtctttccc    4620
agcctccaca gactctacat tcagcatgtc ctggtcttca tcctcccta gatctgaaaa       4680
gtccaggtcc ccaatagaga gcctgggtgc acgggtaggg agctcccaga tgggctcagc      4740
cttgggggctt gctggtatca gtggctcctt gggctctggt gcaaggcttc gctgggcccg     4800
gagcaggaca caggggggcag ggctctgggg tgttctggct gcaggggctg tctctgggga    4860
gtcccagagt tgccgggcat ctaaagaaag ggaaggagct gtcagtgcca tgcccctgt       4920
ggggcaacaa agcaacaggc aggctctgcc tgctcaccca cctactcacc tgggtgtcca      4980
cccgcctcat tgggcatggc cccggcaagt gtctctgccc ggccctgggc cagcgcaacc      5040
tgcttctctg tttctgctgc cgccacattc tccaggaacc gggctctgag ggaaggtgct      5100
tgtcactgac agcgtctgac acaccccagc ccaggtgtac atgccttgct gagcccctgg      5160
acaccacccc caattgcagg cacgcacaga cacacaggga acagtccatg cgctgagcag      5220
accagaacca cacccccccc aaggccagcc cctcttcagt cctccacatc tggggaggat      5280
tactaccaac ccagcattcc caggtgaaaa cacaggagga ggatctactt aacatctaac      5340
ttgcaacctc gttcatgttc actgtcctgg ttttttttg gttggttttt ttttagaga        5400
cagggtctca ctctgtcagt cacccaggct ggagtacagt ggtgtgatca tagctcactg      5460
cagcctcact ctcctgggct tgaccctcag cctcccaagt agctgggact acagacatgt      5520
gccaccacgt ccagctgatt ttttaatttt tttgaggaga cagggtctca ctgtgttgtt      5580
caggctggcc ttgaattcct ggcctcaagc agtcctccca cctcagcctc ctgaagtgct      5640
gagattacag gtgtgaatga tgcacccagc caaatttaa aaaatttctt tgtagagatg       5700
aggtcttact gtgttgccca ggctggtgtc ttgagtctag acaaggactc ttagagcagg      5760
ggaagggggat agctgtccca atgggcatat caggctgtcc ctcccttggc atgtctggta    5820
gcttctggga gcctatgccc aggaaagggc ctggtaaaca ggccaggtgc ggtggctcac      5880
gcttgtaatc ccagcacttt gggaggcaga ggtgggtgga ttacttgaag tcaggagttc      5940
gagaccagcc tggccaacat ggtgaaaccc tgtctctact aaaaatacaa aaattaccca      6000
ggtatcctgg tgcaggccta taatcccagc tacttgggag gctgaggcag gagaattgct      6060
tgaacctggg aggcagaggt tgcagtgtgc tgagatcaca ccactgcact ccagccttgg      6120
agaccgagca agactctgtc tcaaaaaaa aaaaacaaa aaaaaacgg atgtggtaaa          6180
cagtggaccc tcagtttatg ctgaaataat gggtgcaatc cagtgtttct tttctggccc      6240
ctccagcctc tgtcagctct cagtccctgc ctttccctca gccttaggtt accccctccac     6300
ccccacacca cacaccacac agcaccctag gtcccctccc tgctcgcttc tgagctgaag      6360
acttggcaga atgagcccca ggttgggtgt ccacatcccc atctctggct gctaaggtgt      6420
tgctattgaa gcacagggac cactgtgacc ccagtgaatt ggttcccagt gcttagcctt      6480
tgggttaccg aggaggcata tgtctgggag aggataggcc tgagtccccc agctttggtt      6540
gcatcaggca cgtgaaaccc ctgctggggg aagcaatgct gaagccctga gcacatggca      6600
ggcctggcag gccggcctct gtacttactc cagcctggcc tgcccaggag gggactgggg      6660
gacgggtggg ctctcagggg ccctgggtag ggggggatgag aggaagagat ggtaactgtg     6720
gtgtcagctc catggttgct cataccacca cagagctagg cagtgatatt ggggttcctt     6780
cccagccgca gtgggaagtg ggggaaggta tgacacgagg aaactggaag tggaggggag      6840
agactgacgt ggagcaggac agggtgctgg aagagacaga ggcagcagaa caagggagtg      6900
acagatagtg ggcgggagac atgacaagag gcaaagacag gcagaacgtc ggaggagaca      6960
aaggaaacca caggaggagg agatccagtc agagccgaac cccacccgct ggcagtcact      7020
taccaaacgg aagcagtttg gtgaagtctg gaaagagaga gagagaaagc acgcgtttgg      7080
gcagaggagg ctgagtgccc atggaggggc gcaaagcgga gggacaatgg gagagaggac      7140
tccagggtgg cctctgtctc cctacttact tgtagatgct cctctcgctg gaggtgtcag      7200
ctgagggtgc cacagagatg gtaggaaaaa ggttcactga agcttggaga ccggagggag      7260
ggcccacagg gctggaggcg gggcctgtca gcagggcggg gccggtggaa gaggtggggc      7320
ctaccggtga ggcggggcct gtgggggctga aagcaggggc tgtcagtggg gcggggcctg     7380
agaagctgga ggcggggcct gtcagtgggg tggggcctgc ggggcgggag gtggggcatg      7440
tcggtagggc aggcccagtg gaggaggtgg gggctgtctg tggggcgggg cctgaggggg      7500
ttggggtcag ggcctgtcag ctcactgggc catgcctagt agatccaccc tttcccatct      7560
acagatgctc gtacttaccc aggttccggg gcacgcgcgg ggcagccccc gccttccaga      7620
gaacggcggc tcctcttgcc ctcctcagaa gaaggctttc gtcgttcccg ccgcccacca      7680
gcgcctgggg cttcttcgat gtctccatcc tccaatttca gggcgttcta gcagaggcgg      7740
accaggatgt aagaaagtgg ttaacgtgta tgcaggtggg gtggggcgct ggggactgcg      7800
cttctctctt ccctctttcc aatccgcctc agagcgtaag gcccggccca cctcgtagag      7860
cacaagctgc gtgcgcaggt cgacgtcagt gcccgcagtg cccaggtggc gctggaccag      7920
cgcttccatg ccctgctgct ccagtgcatc cgtcacatcg tagaaggagt cctggtccgg      7980
gagcgccgcc agcgtctgga gggcggggat aagaaggcaa ggctgaggtt ggtggggagg      8040
tcaggagcct gagcatccca gagctggcac ccagtccttg ccacacctt gttgatgagg       8100
gtgaccgtgt acaccaacaa ctcagggtca gcgccattct tctcctccag gatggacacc      8160
agattggccc agggaggagc acctgccaca cagaaagtgg agcagtcatg ggggaacagg      8220
```

2130

```
taggagagag ggctctgagc ggtgggggga gaaagggaca gtctctgacc ggtggtgctg    8280
gccacagagt tcactgcacg gatgaacagc ggtgcgttgt tttcggagta ttctacaaac    8340
accaacagca gcttcagggc tgtcttcacc accaagcggg actgaggaga gaggtcagta    8400
catatgagtg gggcttaggc cagacctgtg ccagctgttg ctggggaagg ggaagggctg    8460
ctggggctgg acccagagag aatctaggca gaatgaccct ggccccaggc ccaggcactg    8520
aagtgcctta taggcttaca gaggcctcag actcactccc ttccagctca ctttgcagaa    8580
caggaaactg aggcccagag agaagcaaca ggcaaagggt ataaggctga gtggagagcc    8640
acttaccagg ctggcacaca atgtgtacag ccactgaata gtgtcactgt gggccaccac    8700
ccccagcatt ccatccacaa agagcatcag ctggccgagc gctggggaaa cagggatggg    8760
cagagtcagc gagggtcgct ggagcagagg tcatgggaga ggggcggggc tgacctctaa    8820
ggatgtagct ctggtagttg tggtcggcag cagcacccac acggatcagg cagctcagcc    8880
cctctgaatg cacaaattca ggcaccaggt ctttgtcctc ctaga                    8925
```

```
<210> 2078
<211> 8924
<212> DNA
<213> Homo sapiens

<400> 2078
gttggattag ctaagaaaat tttattttgc tccgtgcgtt caaggagctc acacacatgc     60
acatgcatat gcatgcacac acacacatac acacacactc acatgcatac acacacggct    120
aatactgctc aaggcatggc tcctgggcac agagttctgg ggccagaatt ctgctctggg    180
ccctcctcac tctgtcatct cctgcactgc agtccaggt ccagatagat ttccgggata     240
cagcaccttc acacctccag gccaggaccc ttgcttagtc ccagtgcctg caccaggtca    300
tctccgagcc cactcttcaa cgtccttctc actgcaggga cagagcaggg ttggaggggg    360
ttgatggggt tcaggtgggc agtgggattg tggggggtta cttacaagac ttgcggttgc    420
cgcgggaacg cttgcgttcc ctagcagcta aggcacgagg actgctcttg gtcactgact    480
gcaccagaag gtccatgatc tcatctgatg tatcactggg taaactggag cctgggggtt    540
cttctgggga tgcagtggag ggccccactg tgggcatgat tggggagctg ctctggacca    600
tgcctgagga aggccagata gcaaagtcag gccaaggtgg cactggagcc cattccccac    660
agctgctatg ggcctcacct ctgctgcggc gattgtgtgt ggtgtcctca ggcctgctgg    720
tcagcagact cttcatacta gcatgactgt cagcatctcc ccggcctggc ccgctgctca    780
ctgctactgg gacagagggg ttgctggggg cttccccagc cacacctgag aacttctctg    840
tctggagaaa gaagaagggt gagctgggag gagcgaagga aaccaaggag gtggcagtca    900
agactaagac ctggaagggc acccacctcg gtgatcatgc gtccccgggt cttgttgcgc    960
tcacggtatg tggcctgctt ctgctgctgc tgtagcactc gttcccggca agtccgatac   1020
tcaagcgcaa attcccgcag cgtgtggcag aactgcatga tgcgcacttc acgggccgcc   1080
tgcggggtgt agcccaggta gagcaggaag gcatggaacc taggcaggtc agagtaggga   1140
gggacagtaa gtcctgctta ttgtctgagg gagggtggtg gccgtcctgc tctcttggg    1200
tccatgcccc tacctattgc agacacggcg gtgcactatc cttagcatgg caacacggcg   1260
ggcacactgg tccaggaagt gggtgaggcg ggcacgcagg ctggggcca gctcatgctt    1320
ggccaagctc cgcaggctct cctcggctgc ccggctccgg cgctccagct gccccaggtt   1380
ctcagtcagc tgttcaaagt ccacctgaga aagcaagggg gtgcacatac tgtcccccca   1440
caccctgtag acaagacatg gcccgaggct gcttctgggc cagagtggcc agcttgggcc   1500
ctaaggacac agacatccaa atctcataga ctagtgcaag agacacaagt ccatctgatg   1560
tgaatgggga gcagaaggtt tactggggga agtggcagtt aaacagaccc aaagactgag   1620
taggtgtggc caggccaata gaggaaagag catttctggc agagggcata gctcacaccc   1680
aggtggctgg agcaagccct ggcacagcag cccaaatggg gagaagggg aggagccagg    1740
cccaggaagc agcgctcctc atgccttgtc cggccttggt tgattctggc aggtgctaac   1800
cttggcacag cgggtcaggg cagggatttc tgaatagagg tcagaggact caggccgggt   1860
ctggagcact agggagcaga gatggtgtag cagtgactgt cgacgcaccg tgtccttcac   1920
ctctgacacc ttctccaggt agctcagctc aaagccgctg ctctgaaagg acccttctg    1980
agcctgggcc tggttggctc cagaaccctg actccccta gtccccatgt actctcactc    2040
acctgggagc cattgaggaa gttgcccacc gctaggaggg tagccaggat gcagcggaag   2100
gtggcattct gtaccagctg ttccataccc actttcaggt caaacagtgg ctcagcaatt   2160
tcctggtatg ggagaccagg gactctcaga ctacatggtc atgatgctta cctgtccta    2220
ctgactgtcc cactccaaga cccaggtacc cgctccatgc tgtcatagtc cagcttgaag   2280
gcccagagtt gtagacgagc agcgaggccg ccaatggagg caagagtcat caggaagttc   2340
tcggctgggc ccaggggtat gtcaggggtg gccagctggg cttcctcaat cttctgccgc   2400
tcttcctccg tgggcatcat ggtcagtagc ttctgaggat gtagccagag cctgacatgg   2460
```

```
ccccctcaat gcaggcctga ggcctgaggc attggtcttg acccctcagt catctagggg      2520
aggccccagt gtctggggac tgccctgcag aaatgccaag cccatgccca ccaccagagg      2580
gacaggaaat gcccacctac caaaggagaa ggccagacct ccccccaaca cccatagctg      2640
ggtgacctca cctcaatgcc atccttgctg acagcaaact catcaaagtt gagcagagca      2700
gccttaatga catgcacagg tggcagtgtg gttaggccga tgttgatggc gttgctgcgc      2760
ttggggtcca gcactgtggt cattgtccgg cggccctctc cagctttctg catggttggg      2820
ggaagggcag tgtaagactg aggaagggggg cctgacgcgg tggctcacgc ctgtaatccc      2880
agcactttgg gaggccaagg cgggtggacc acgaggtcag gagatcgaga ccatcctggc      2940
taacatggtg aaaccccatc tctactaaaa atacaaaaaa aattagctgg gcgtggtggc      3000
gggcacctgt agtcccagct actcgggagg ctgaggcagg agaatggcgt gaacccggga      3060
ggcggagctt gcagtgagct gagatcacac cattgcacta catcctgggt gactgagcaa      3120
gactctgtct caaaaaaaaa aaaaaaaaa aaaagactga ggaagggact agctgggaca      3180
gcaacctcag agggcactcc aaggccctcc tctagattgc caaatgatcc cacaactgac      3240
aaactggcaa cctggaatgt gtaagtcatg gggatgagct tagattcttt tgagacaggg      3300
cctggctcta ccatctaggc tggagtgcag tggtgccatc atcgcccact gcagcttatc      3360
ttctgggatt ttcctgcctc agcctcccaa gtagctggga ttacaggcgt gtaccaccat      3420
acccaactat tttttttttt aacatttttt tttccgcctc ccaggttcaa gcaattcttt      3480
tgcctcagcc tcccaagtag ctggtattgc aggcatgagc caccacgccc agctcatttt      3540
catattttta gtagagacgg ggtttcacca tgttggccag ctggtctca aactcctggc      3600
ctcaagtaat ctgcctgcct tggcctccca aagtgctggg attacagggg tgagccacca      3660
tgcccggcta attttttttt taacatttat ttattttat ttatttagtt attttttgaga      3720
cgaagtcttg ctcttgtccc ccaggctgga gtgcaatggt gcgatctcga ctcactgcaa      3780
cctctacctc ccgggttcaa gtgattctcc tgcctcagcc tcccgagtag ctgggattac      3840
aggtgcccgc caccacgctt ggctaatttt gtgtttttag tagagacggg gttttgctaa      3900
tttgaccagg ctggtctcga actcctgacc tcaaatgatc cacctgcctc ggcctcccaa      3960
ggtcctggga ttacaggcat gagccactac acccagacca acttttagta gagataatgt      4020
ctcactatgt tgcacaggct ggtctcaaac tcttggatta caggtgtgag ccaccatgcc      4080
cggccacatt tagattctag ttggggcact gctgatccct tgttaggaga ccttggacaa      4140
tttcctactc ctttctttgc cttggtttcc ccatgtggga agtgagtgac tagctccaac      4200
aggtcagatc cttaagctct gattccctcc tgcctccctt ggggctacct tgcagatgag      4260
tggatttacc ttggagggca gcacctcttt ggcacgagac tcaaagaggt gttccagtcg      4320
ggccgtgtcc actgagacag ggtccagtga agcccagagg gtggcgcagg gcccaaagcg      4380
gcttgcagag actccatggc ccccagccag cttcagctca cgccagaaaa gttttactgt      4440
cttcctctta gtggggaggg ctgagctgtc aggcactgaa tggggaagag gggcagccag      4500
aggtagaggt ggaggtggtg ggaaggggcc tttgatgggt gggggaggtg gaagtggggg      4560
agggggggtgg tactcccgag agcaggggca gtgggggtga gggagctggg atgtctttcc      4620
cagcctccac agactctaca ttcagcatgt cctggtcttc atcctcccct agatctgaaa      4680
agtccaggtc cccaatagag agcctgggtg cacgggtagg gagctcccag atgggctcag      4740
ccttggggct tgctggtatc agtggctcct tgggctctgg tgcaaggctt cgctgggccc      4800
ggagcaggac acaggggca gggctctggg gtgttctggc tgcaggggct gtctctgggg      4860
agtccagag ttgccgggca tctaaagaaa gggaaggagc tgtcagtgcc atgcccctg      4920
tggggcaaca aagcaacagg caggctctgc ctgctcaccc acctactcac ctgggtgtcc      4980
acccgcctca ttgggcatgg ccccggcaag tgtctctgcc cggccctggg ccagcgcaac      5040
ctgcttctct gtttctgctg ccgccacatt ctccaggaac cgggctctga gggaaggtgc      5100
ttgtcactga cagcgtctga cacacccag cccaggtgta catgccttgc tgagccctg      5160
gacaccaccc ccaattgcag gcacgcacag acacacaggg aacagtccat gcgctgagca      5220
gaccagaacc acaccccccc caaggccagc ccctcttcag tcctccacat ctggggagga      5280
ttactaccaa cccagcattc ccaggtgaaa acacagggag aggatctact taacatctaa      5340
cttgcaacct cgttcatgtt cactgtcctg gttttttttt ggttggtttt tttttagag      5400
acagggtctc actctgtcag tcacccaggc tggagtacag tggtgtgatc atagctcact      5460
gcagcctcac tctcctgggc ttgaccctca gcctcccaag tagctgggac tacagacatg      5520
tgccaccacg tccagctgat tttttaattt ttttgaggag acagggtctc actgtgttgt      5580
tcaggctggc cttgaattcc tggcctcaag cagtcctccc acctcagcct cctgaagtgc      5640
tgagattaca ggtgtgaatg atgcacccag ccaaattta aaaaattct ttgtagagat      5700
gaggtcttac tgtgttgccc aggctggtgt cttgagtcta dacaaggact cttagagcag      5760
gggaagggga tagctgtccc aatgggcata tcaggctgtc cctcccttgg catgtctggt      5820
agcttctggg agcctatgcc caggaaaggg cctggtaaac aggccaggtg cggtggctca      5880
cgcttgtaat cccagcactt tgggaggcag aggtgggtgg attacttgaa gtcaggagtt      5940
cgagaccagc ctggccaaca tggtgaaacc ctgtctctac taaaaataca aaaattaccc      6000
aggtatcctg gtgcaggcct ataatcccag ctacttggga ggctgaggca ggagaattgc      6060
ttgaacctgg gaggcagagg ttgcagtgtg ctgagatcac accactgcac tccagccttg      6120
```

2132

```
gagaccgagc aagactctgt ctcaaaaaaa aaaaaaacaa aaaaaaacg gatgtggtaa      6180
acagtggacc ctcagtttat gctgaaataa tgggtgcaat ccagtgtttc ttttctggcc      6240
cctccagcct ctgtcagctc tcagtccctg cctttccctc agccttaggt taccccctcca      6300
cccccacacc acacaccaca cagcacccta ggtcccctcc ctgctcgctt ctgagctgaa      6360
gacttggcag aatgagcccc aggttggggtg tccacatccc catctctggc tgctaaggtg      6420
ttgctattga agcacaggga ccactgtgac cccagtgaat tggttcccag tgcttagcct      6480
ttgggttacc gaggaggcat atgtctggga gaggataggc ctgagtcccc cagctttggt      6540
tgcatcaggc acgtgaaacc cctgctgggg gaagcaatgc tgaagccctg agcacatggc      6600
aggcctggca ggccggcctc tgtacttact ccagcctggc ctgcccagga ggggactggg      6660
ggacgggtgg gctctcaggg gccctgggta ggggggatga gaggaagaga tggtaactgt      6720
ggtgtcagct ccatggttgc tcatacccac acagagctag gcagtgatat tggggttcct      6780
tcccagccgc agtgggaagt gggggaaggt atgacacgag gaaactggaa gtggagggga      6840
gagactgacg tggagcagga cagggtgctg gaagagacag aggcagcaga acaagggagt      6900
gacagatagt gggcgggaga catgacaaga ggcaaagaca ggcagaacgt cggaggagac      6960
aaggaaacca caggaggagg agatccagtc agagccgaac cccacccgct ggcagtcact      7020
taccaacgga agcagtttgg tgaagtctgg aaagagagag agagaaagca cgcgtttggg      7080
cagaggaggc tgagtgccca tggaggggcg caaagcggag ggacaatggg agagaggact      7140
ccagggtggc ctctgtctcc ctacttactt gtagatgctc ctctcgctgg aggtgtcagc      7200
tgagggtgcc acagagatgg taggaaaaag gttcactgaa gcttggagac cggagggagg      7260
gcccacaggg ctggaggcgg ggcctgtcag cagggcgggg ccggtggaag aggtggggcc      7320
taccggtgag gcgggggcctg tggggctgaa agcaggggct gtcagtgggg cggggcctga      7380
gaagctggag gcgggcctgt cagtggggtg gggcctgcag ggcggaaggt ggggcatgtc      7440
tgcagggcac gcccagtgga ggaggtgggt ggctgtctgt tggggcgggc ctgagggggt      7500
tggggtcagg gcctgtcagc tcactgggcc atgcctagta gatccaccct ttcccatcta      7560
cagatgctcg tacttaccca ggttccgggg cacgcgcggg gcagcccccg ccttccagag      7620
aacggcggct cctcttgccc tcctcagaag aaggctttcg tcgttcccgc cgcccaccag      7680
cgcctggggc ttcttcgatg tctccatcct ccaatttcag ggcgttctag cagaggcgga      7740
ccaggatgta agaaagtggt taacgtgtat gcaggtgggg tggggcgctg gggactgcgc      7800
ttctctcttc cctctttcca atccgcctca gagcgtaagg cccggcccac ctcgtagagc      7860
acaagctgcg tgcgcaggtc gacgtcagtg cccgcagtgc ccaggtggcg ctggaccagc      7920
gcttccatgc cctgctgctc cagtgcatcc gtcacatcgt agaaggagtc ctggtccggg      7980
agcgccgcca gcgtctggag ggcggggata agaaggcaag gctgaggttg gtggggaggt      8040
caggagcctg agcatcccag agctggcacc cagtccttgg ccacaccttg ttgatgaggg      8100
tgaccgtgta caccaacaac tcaggtcag cgccattctt ctcctccagg atggacacca      8160
gattggccca gggaggagca cctgccacac agaaagtgga gcagtcatgg gggaacaggt      8220
aggagagagg gctctgagcg gtggggggag aaagggacag tctctgaccg gtggtgctgg      8280
ccacagagtt cactgcacgg atgaacagcg gtgcgttgtt ttcggagtat tctacaaaca      8340
ccaacagcag cttcagggct gtcttcacca ccaagcggga ctgaggagag aggtcagtac      8400
atatgagtgg ggcttaggcc agacctgtgc cagctgttgc tggggaaggg gaagggctgc      8460
tggggctgga cccagagaga atctaggcag aatgaccctg gccccaggcc caggcactga      8520
agtgccttat aggcttacag aggcctcaga ctcactccct tccagctcac tttgcagaac      8580
aggaaactga ggcccagaga gaagcaacag gcaaaggta taaggctgag tggagagcca      8640
cttaccaggc tggcacacaa tgtgtacagc cactgaatag tgtcactgtg gccaccacc      8700
cccagcattc catccacaaa gagcatcagc tggccgagcg ctggggaaac agggatgggc      8760
agagtcagcg agggtcgctg gagcagaggt catgggagag gggcggggct gacctctaag      8820
gatgtagctc tggtagttgt ggtcggcagc agcacccaca cggatcaggc agctcagccc      8880
ctctgaatgc acaaattcag gcaccaggtc tttgtcctcc taga                      8924
```

<210> 2079
<211> 3357
<212> DNA
<213> Homo sapiens

<400> 2079
```
ccggggtccc agttctaaag tccccacgca cccacccgga ctcagaatct cctcagacgc        60
cgagatgcgg gtcacggcgc cccgaaccct cctcctgctg ctctgggggg cagtggccct       120
gaccgagacc tgggccggtg agtgcgggt cgggagggaa atggcctctg tggggaggag       180
agaggggacc gcaggcgggg gcgcaggacc cggggagccg cgccgggagg agggtcgggc       240
gggtctcagc ccctcctcgc ccccaggctc ccactccatg aggtatttct acaccgccat       300
gtcccggccc ggccgcgggg agccccgctt catcaccgtg ggctacgtgg acgacacgct       360
```

```
gttcgtgagg ttcgacagcg acgccacgag tccgaggaag gagccgcggg cgccatggat    420
agagcaggag gggccggagt attgggaccg ggagacacag atctccaaga ccaacacaca    480
gacttaccga gagaacctgc gcaccgcgct ccgctactac aaccagagcg aggccggtga    540
gtgaccccgg cccggggcgc aggtcacgac tccccatccc ccacgtacgg cccgggtcgc    600
cccgagtctc cgggtccgag atccgccccc gaggccgcgg gacccgccca gaccctcgac    660
cggcgagagc cccaggcgcg tttacccggt ttcattttca gttgaggcca aaatccccgc    720
gggttggtcg gggcggggcg gggctcgggg gacggggctg accgcggggc cggggccagg    780
gtctcacatc atccagagga tgtacggctg cgacgtgggg ccggacgggc gcctcctccg    840
cgggtatgac caggacgcct acgacggcaa ggattacatc gccctgaacg aggacctgag    900
ctcctggacc gcggcggaca ccgcggctca gatcacccag cgcaagtggg aggcggcccg    960
tgtggcggag cagctgagag cctacctgga gggcctgtgc gtggagtcgc tccgcagata   1020
cctggagaac gggaaggaga cgctgcagcg cgcgggtacc aggggcagtg gggagccttc   1080
cccatctcct ataggtcgcc ggggatggcc tcccacgaga agaggaggaa aatgggatca   1140
gcgctagaat gtcgccctcc cttgaatgga gaatggcatg agtttttcctg agtttcctct   1200
gagggccccc tcttctctct aggacaatta agggatgacg tctctgagga aatggagggg   1260
aagacagtcc ctagaatact gatcaggggt cccctttgac ccctgcagca gccttgggaa   1320
ccgtgacttt tcctctcagg ccttgttctc tgcctcacac tcagtgtgtt tggggctctg   1380
attccagcac ttctgagtca ctttacctcc actcagatca ggagcagaag tccctgttcc   1440
ccgctcagag actcgaactt tccaatgaat aggagattat cccaggtgcc tgcgtccagg   1500
ctggtgtctg ggttctgtgc cccttcccca ccccaggtgt cctgtccatt ctcaggctgg   1560
tcacatgggt ggtcctaggg tgtcccatga gagatgcaaa gcgcctgaat tttctgactc   1620
ttcccatcag acccccccaaa gacacatgtg acccaccacc ccatctctga ccatgaggtc   1680
accctgaggt gctgggccct gggcttctac cctgcggaga tcacactgac ctggcagcgg   1740
gatggcgagg accaaactca ggacaccgag cttgtggaga ccagaccagc aggagataga   1800
accttccaga agtgggcagc tgtggtggtg ccttctggag aagagcagag atacacatgc   1860
catgtacagc atgaggggct gccgaagccc ctcaccctga gatggggtaa ggaggggggat   1920
gagggggtcat atctcttctc agggaaagca ggagcccttc agcagggtca gggcccctca   1980
tcttcccttc ctttcccaga gccgtcttcc cagtccaccg tccccatcgt gggcattgtt   2040
gctggcctgg ctgtcctagc agttgtggtc atcggagctg tggtcgctgc tgtgatgtgt   2100
aggaggaaga gctcaggtag ggaaggggtg aggggtgggg tctgggtttt cttgtcccac   2160
tgggggtttc aagccccagg tagaagtgtt ccctgcctca ttactgggaa gcagcatcca   2220
cacaggggct aacgcagcct gggaccctgt gtgccagcac ttactctttt gtgcagcaca   2280
tgtgacaatg aaggacggat gtatcacctt ggtggttgtg gtgttggggt cctgattcca   2340
gcattcatga gtcaggggaa ggtccctgct aaggacagac cttaggaggg cagttggtcc   2400
aggacccaca cttgctttcc tcgtgtttcc tgatcctgcc ttgggtctgt agtcatactt   2460
ctggaaattc cttttgggtc caagacgagg aggttcctct aagatctcat ggccctgctt   2520
cctcccagtc ccctcacagg gcattttctt cccacaggtg gaaaaggagg gagctactct   2580
caggctgcgt gtaagtgatg ggggcgggag tgtggaggag ctcacccacc ccataattcc   2640
tcctgtccca cgtctcctgc gggctctgac caggtcctgt ttttgttcta ctccaggcag   2700
cgacagtgcc cagggctctg atgtgtctct cacagcttga aaaggtgaga ttcttggggt   2760
ctagagtggg tggggtggca ggtctggggg tgggtggggc agtggggaaa ggcctgggta   2820
atggagattc tttgattggg atgtttcgcg tgtgtggtgg ctgtttaga gtgtcatcac   2880
ttaccatgac taaccagaat ttgttcatga ctgttgtttt ctgtagcctg agacagctgt   2940
cttgtgaggg actgagatgc aggatttctt cacgcctccc ctttgtgact tcaagagcct   3000
ctggcatctc tttctgcaaa ggcacctgaa tgtgtctgcg tccctgttag cataatgtga   3060
ggaggtggag agacagccca cccccgtgtc caccgtgacc cctgttccca tgctgacttg   3120
tgtttcctcc ccagtcatct ttcctgttcc agagaggtgg ggctggatgt ctccatctct   3180
gtctcaactt tatgtgcact gagctgcaac ttcttacttc cctactgaaa ataagaatct   3240
gaatataaat ttgttttctc aaatatttgc tatgagaggt tgatggatta attaaataag   3300
tcaattcctg gaatttgaga gagcaaataa agacctgaga accttccaga atctgca      3357
```

<210> 2080
<211> 3357
<212> DNA
<213> Homo sapiens

<400> 2080
```
ccgcggtccc agttctaaag tccccacgca cccacccgga ctcagagtct cctcagacgc     60
cgagatgctg gtcatggcgc cccgaaccgt cctcctgctg ctctcggcgg ccctggccct    120
gaccgagacc tgggccggtg agtgcgggtc gggagggaaa tggcctctgc cgggaggagc    180
```

2134

```
gaggggaccg caggcggggg cgcaggacct gaggagccgc gccgggagga gggtcgggcg      240
ggtctcagcc cctcctcacc cccaggctcc cactccatga ggtatttcta cacctccgtg      300
tcccggcccg gccgcgggga gccccgcttc atctcagtgg gctacgtgga cgacacccag      360
ttcgtgaggt tcgacagcga cgccgcgagt ccgagagagg agccgcgggc gccgtggata      420
gagcaggagg ggccggagta ttgggaccgg aacacacaga tctacaaggc ccaggcacag      480
actgaccgag agagcctgcg gaacctgcgc ggctactaca accagagcga ggccggtgag      540
tgaccccggc ccggggcgca ggtcacgact ccccatcccc cacgtacggc ccgggtcgcc      600
ccgagtctcc gggtccgaga tccgcctccc tgaggccgcg ggacccgccc agaccctcga      660
ccggcgagag ccccaggcgc gtttacccgg tttcattttc agttgaggcc aaaatccccg      720
cgggttggtc ggggcggggc ggggctcggg ggactgggct gaccgcgggg ccggggccag      780
ggtctcacac cctccagagc atgtacggct gcgacgtggg gccggacggg cgcctcctcc      840
gcgggcatga ccagtacgcc tacgacggca aggattacat cgccctgaac gaggacctgc      900
gctcctggac cgccgcggac acggcggctc agatcaccca gcgcaagtgg gaggcggccc      960
gtgaggcgga gcagcggaga gcctacctgg agggcgagtg cgtggagtgg ctccgcagat     1020
acctggagaa cgggaaggac aagctggagc gcgctggtac cagggggcagt ggggagcctt     1080
ccccatctcc tataggtcgc cggggatggc ctcccacgag aagaggagga aaatgggatc     1140
agcgctagaa tgtcgccctc cgttgaatgg agaatggcat gagttttcct gagtttcctc     1200
tgagggcccc ctcttctctc tagacaatta aggaatgacg tctctgagga aatggagggg     1260
aagacagtcc ctagaatact gatcaggggt ccccttgac cctgcagca gccttgggaa      1320
ccgtgacttt tcctctcagg ccttgttctc tgcctcacac tcagtgtgtt tggggctctg     1380
attccagcac ttctgagtca ctttacctcc actcagatca ggagcagaag tccctgttcc     1440
ccgctcagag actcgaactt tccaatgaat aggagattat cccaggtgcc tgcgtccagg     1500
ctggtgtctg ggttctgtgc cccttcccca ccccaggtgt cctgtccatt ctcaggctgg     1560
tcacatgggt ggtcctaggg tgtcccatga aagatgcaaa gcgcctgaat tttctgactc     1620
ttcccatcag acccccccaaa gacacacgtg acccaccacc ccatctctga ccatgaggcc     1680
accctgaggt gctgggccct gggtttctac cctgcggaga tcacactgac ctggcagcgg     1740
gatggcgagg accaaactca ggacactgag cttgtggaga ccagaccagc aggagataga     1800
accttccaga agtgggcagc tgtggtggtg ccttctggag aagagcagag atacacatgc     1860
catgtacagc atgaggggct gccgaagccc ctcaccctga gatggggtaa ggagggggat     1920
gaggggtcat atctcttctc agggaaagca ggagcccttc agcagggtca gggcccctca     1980
tcttcccctc ctttcccaga gccgtcttcc cagtccaccg tccccatcgt gggcattgtt     2040
gctggcctgg ctgtcctagc agttgtggtc atcggagctg tggtcgctgc tgtgatgtgt     2100
aggaggaaga gttcaggtag ggaaggggtg aggggtgggg tctgggtttt cttgtcccac     2160
tgggggtttc aagccccagg tagaagtgtt ccctgcctca ttactgggaa gcagcatgca     2220
cacagggoct aacgcagcct gggaccctgt gtgccagcac ttactctttt gtgcagcaca     2280
tgtgacaatg aaggatggat gtatcacctt gatggttgtg gtgttggggt cctgattcca     2340
gcattcatga gtcaggggaa ggtccctgct aaggacagac cttaggaggg cagttggtcc     2400
aggacccaca cttgctttcc tcgtgtttcc tgatcctgcc ctgggtctgt agtcatactt     2460
ctggaaattc cttttgggtc caagactagg aggttcctct aagatctcat ggccctgctt     2520
cctcccagtg ccctcacagg acatttttctt cccacaggtg gaaaaggagg gagctactct     2580
caggctgcgt gtaagtggtg ggggtgggag tgtggaggag ctcacccacc ccataattcc     2640
tcctgtccca cgtctcctgc gggctctgac caggtcctgt ttttgttcta ctccaggcag     2700
cgacagtgcc cagggctctg atgtgtctct cacagcttga aaaggtgaga ttcttggggt     2760
ctagagtggg tggggtggcg ggtctggggg tgggtggggc agaggggaaa ggcctgggta     2820
atggggattc tttgattggg atgtttcgcg tgtgtggtgg ctgtttaga gtgtcatcgc     2880
ttaccatgac taaccagaat ttgttcatga ctgttgtttt ctgtagcctg agacagctgt     2940
cttgtgaggg actgagatgc aggatttctt cacgcctccc ctttgtgact tcaagagcct     3000
ctggcatctc tttctgcaaa ggcacctgaa tgtgtctgcg tccctgttag cataatgtga     3060
ggaggtggag agacagccca cccttgtgtc cactgtgacc cctgttccca tgctgacctg     3120
tgtttcctcc ccagtcatct ttcttgttcc agagaggtgg ggctggatgt ctccatctct     3180
gtctcaactt tacgtgcact gagctgcaac ttcttacttc cctactgaaa ataagaatct     3240
gaatataaat ttgttttctc aaatatttgc tatgagaggt tgatggatta attaaataag     3300
tcaattcctg gaatttgaga gagcaaataa agacctgaga accttccaga atctgca       3357
```

<210> 2081
<211> 1098
<212> DNA
<213> Homo sapiens

<400> 2081

2135

```
ctgatcctgc gccatgatcc tggatggctg cgccccactt atgagcccat tggattgggt       60
ggtgctcggg gcaccaagag agggtgcccc acacaccacg tgtattgtgg tatacaagag      120
ggcatcgagc ccctcagtgg gagatatttt gccaactgcc atgtggaaga ggtgcctcca      180
gctgcccgaa acgaccgggc agcccatcgg ctatgggagg ccagcaagag gctggcaggg      240
cttgggcctg gggagtatgc tgaacccgat gaagaccccc agtctgagga ctcagaggcc      300
ccatcttgtc taagcacccc ccaccctgag gagcccacag tttctcaacc ttaccccagc      360
cctcagagct caccagattt gtctaagatg acgcaccgaa ttcaggctaa agttgagcct      420
gagatccagc tctcctaacc ctcaggccag gatgcttgcc atggcacttc atggtccttg      480
aaaacctcgg atgtgtgcga ggccatgccc tggacactga cgggtttgtg atcttgacct      540
ccgtggttac tttctggggc cccaagctgt gccctggaca tctcttttcc tggttgaagg      600
aataatgggt gattatttct tcctgagagt gacagtaacc ccagatggag agataggggt      660
atgctagaca ctgtgcttct cggaaatttg gatgtagtat tttcaggccc cacccttatt      720
gattctgatc agctctggag cagaggcagg gagtttgcaa tgtgatgcac tgccaacatt      780
gagaattagt gaactgatcc ctttgcaacc gtctagctag gtagttaaat tacccccatg      840
ttaatgaagc ggaattaggc tcccgagcta agggactcgc ctagggtctc acagtgagta      900
ggaggagggc ctgggatctg aacccaaggg tctgaggcca gggccgactg ccgtaagatg      960
ggtgctgaga agtgagtcag ggcagggcag ctggtatcga ggtgccccat gggagtaagg     1020
ggacgccttc cgggcggatg cagggctggg gtcatctgta tctgaagccc ctcggaataa     1080
agcgcgttga ccgccgaa                                                   1098
```

```
<210> 2082
<211> 255
<212> DNA
<213> Homo sapiens

<400> 2082
gggtcgcgca gccctggagg gcaggtgcct gtatggggag gggccctgaa acagaggtcg       60
tttctcggca cagtcagacc cgttaattcc aagcaggctg gggcttgttg gggattaccg      120
gcactccccg cccaggagac gcggatgcgg cctctacagg ttgggaaacc cggttctggg      180
cagtgcagtt tgggattgca aaatgctgca agttccagaa tttctatcta ggtggggcat      240
ggggactgcg gtact                                                       255
```

```
<210> 2083
<211> 984
<212> DNA
<213> Homo sapiens

<400> 2083
cctctctgcc cccatttcca ctcctgctct tgggacacag gagactggtt agatgagagt       60
agaaagttta tttttgaaca cccaggtgtg gggtggctgg gcgagaccat ctgatggctt      120
tgggagccag gccgcagggt ttagcttgga tctgttgagt aggagaccct taaacatggc      180
caccctgagc taagagctgg tcttggattt tgctttcttt tggattaacc gagtattttg      240
tgggattcca tttgatccct taactggctg accagctata actcctggtt atgttgtttt      300
agtgttgctc caggtgtcgt tggaggagaa gttgaaggta caaggagttt gcaggaggga      360
aggtggcagt taatgagcct tcctggtggg accggatggt gagggcaggg gcatctggcc      420
cagcgtggac tcgggccata gatgggaagt ggtcatttgg aggtcaccat ctctctgaca      480
ccctgaccat agcacctgca cccctgtgct gagctgcagg tccccggcac cagcgtctgt      540
gcagctcagg tgttgctgag ccgtggcctc cgcagctctc catcaggatt tctcaagctt      600
cattatgaat tatctctgtg tgagctcaca acggtgactg cagagtccca ggtcatctct      660
cagatcttct gaatcaaaca tatggtctgc agttccgcg catgtctttg ccgattttc       720
tgacaatcaa agtgaagaag ttctgagcta cgggaagttg ggttgaaggc atgatgggga      780
aaacatgatt agttgacagc ttttcccaga gagttttttag acaaactcaa ccttggtaac      840
cttctcagtg ggcttatgat aagaaccttc aatgtgccaa aaaataaaaa aagcagcact      900
ccaggtagtt aatctttgtt taaaaaaccc ttcccccccac ccagtcctgc aaacaaacaa      960
acaaacaaaa aaaggagaaa aaaa                                            984
```

```
<210> 2084
<211> 984
```

<212> DNA
<213> Homo sapiens

<400> 2084
```
cctctctgcc cccatttcca ctcctgctct tgggacacag gagactggtt agatgagagt      60
agaaagttta tttttgaaca cccaggtgtg gggtggctgg gcgagaccat ctgatggctt     120
tgggagccag gccgcagggt ttagcttgga tctgttgagt aggagaccct taaacatggc     180
caccctgagc taagagctgg tcttggattt tgctttcttt tggattaacc gagtattttg     240
tgggattcca tttgatccct taactggctg accagctata actcctggtt atgttgtttt     300
agtgttgctc caggtgtcgt tggaggagaa gttgaaggta caaggagttt gcaggaggga     360
aggtggcagt taatgagcct tcctggtggg accggatggt gagggcaggg gcatctggcc     420
cagcgtggac tcgggccata gatgggaagt ggtcatttgg aggtcaccat ctctctgaca     480
ccctgaccat agcacctgca cccctgtgct gagctgcagg tccccggcac cagcgtctgt     540
gcagctcagg tgttgctgag ccgtggcctc cgcagctctc catcaggatt tctcaagctt     600
cattatgaat tatctctgtg tgagctcaca acggtgactg cagagtccca ggtcatctct     660
cagatcttct gaatcaaaca tatggtctgc agttgccgcg catgtctttg gccgattttc     720
tgacaatcaa agtgaagaag ttctgagcta cgggaagttg ggttgaaggc atgatgggga     780
aaacatgatt agttgacagc ttttcccaga gagttttag acaaactcaa ccttggtaac     840
cttctcagtg ggcttatgat aagaaccttc aatgtgccaa aaaataaaaa aagcagcact     900
ccaggtagtt aatctttgtt taaaaaaccc ttccccccac ccagtcctgc aaacaaacaa     960
acaaacaaaa aaaggagaaa aaaa                                            984
```

<210> 2085
<211> 9545
<212> DNA
<213> Homo sapiens

<400> 2085
```
aggtagaaga gagaccagaa aaagatttta ctgagaaggt aaggaatcgt tcataaacct      60
agagggtccc aaaagttgtg gatgaaattg ataagaaaat atgttgcttg gttttttta     120
ataaggatgt tccccagcga gggaactgga ctagaaagcg gcccaccta cctggtatca     180
ccttcccgga ggtaggccac cgggagtcct gtccggtgtg cgttagatcc tgtagagcag     240
ggaggcgttt ataatgggcc ccaccatgga gtttagggtt aatccagcta atcgcagagc     300
atccaggagg tgcctggaaa tgatcccctc cttacagttt actataagcc catgaagagt     360
ttccaatttg gaaatggaat taaagtaaca gtcctgtgat gttagattta tatgcagttt     420
tggtttgtc tgaaatcgca tctgtgttag tccgttctca cactgccata aagaacttcc     480
ctgagactgg gtaatttaca aagaaaagag ctttaattga ctcacagttc cgcatggctg     540
gggagacctc aggaaactta caatcatggt gaaaagggaa gcaggcacct tcttcacaag     600
gcgacaggag agagaacatg tgaaggagga actgtcaaac acaaagccat cagatctcct     660
gggagcccac tcactatcac gagaacagca tggggggaaac tgcccccgtg atccagtctc     720
ctcccaccag ggccgtccct catcttgtgg ggattatggg gattacaatt ccagatgaga     780
tttgggtggg gacacagagc taaaccatat cagcatgtga tcctctcaac gttccagggg     840
tctcgtaaca tgccgggcct gtctgcagcc acgctggcct ctctgggtgg gacttcctct     900
cggagaggca gcggagacac ctccatctcc atcgacaccg aggcatccat caggggaaatc     960
aaggtgagat gctctcttct tactgacaac ttgagagaac cttttgtaaa aatcagtctt    1020
tagattaaaa aaaaaaagt taattcataa agttctggat ctttcttctt ggtcctctct    1080
ccctcacctc ccctaaaata cggtgttctc ctaacatcaa gacccagctc agatagtgtc    1140
tcctgcagga atctgatcct acccactgac cccccagcag ggcggaccgt gtgccggccc    1200
cctgcgcccc tcagcacccg gggaatacct tagtgagagc acttggcacg ttgtgttgat    1260
gcacttggtc gtctctgtat gcttggtctg catagacatt cagtccacaa gtttggacac    1320
cagacggctt tacctacttt cacacaaccc ctccccacta agtatgttcc ccttcggcct    1380
agaacttgcc ctttcctttc tctttgtaat gtgcctttag tagccctcat ctttgtattt    1440
taatgatttt ttttatccca ctgtagtgta ggtattattc tctgctctat cctcagcacc    1500
caggacagtg ccaggcattt ggtagtattc tgtgtgtgaa agagaaacac ggtgctattt    1560
gttaaagtaa ctagggacag tgcatctgaa aacctgaaga ctggaagggc aggtgaggtg    1620
actagacctg tgtcctccag ggagcagaac caagacagaa gcagctggaa ggagccagaa    1680
ctgactcaga ttctgaattt tctagtgctt taaactaggt ttaaaaggga agcaacttcc    1740
actggggatg tctgagcagc tggatggccg tttgccaggg aggacggaga gggatttaag    1800
catccaccag agtttggcca gggttacctt gaagatgctt ccaacaccta tgttttataa    1860
gtttacaaaa ccagaagagc catttcccat gtgccacccc tgggccacct gcagctcctt    1920
```

```
gttgcttccc ttttttttttc cttttttcttt tctttttcttt ctttctttttt tttttttttttt   1980
tttttttttt ggagacaaga gttttgcttt tgtcacccat gctggagttc aatggcacga   2040
tctcggctca ctgcaacctc cacctcccag gttcaagtga ttctccagcc tcagcctcct   2100
gagtagctgg gattacaggc gcccgccacc atgcccggct aacttttgta tttttagtgg   2160
agacggggtt tcgccatgtt ggccaggctg gtcttgaact cctgacctca ggtgatccac   2220
ccactcggcc tcccaaagtg ctgggattcc aggcgtgagc cgctgcgcct ggcctgttgt   2280
ttccgtttct acagcagagc agcagagttg gcggcagtcc tgatgtttct ctgcccttag   2340
gttgcgcgtg ccgttcattt gttcaggtac ttactgagag gctggctggt gccagatgct   2400
gtccccggca ccaggaattt ggcaaagtag agacttggag ctccataaat gcagggaaaa   2460
agtgctactg attttttgcct ctagcatctt actgtacatt gcacagagta ggaactccta   2520
gtgcttgaat gaattactaa ataggagttg aaataacctg taccgttttc cgaggctcta   2580
ttttgtctgt tttttaaact gtgtaaaatc atatgagata cactaaaatt gtataaaatc   2640
atgtaaaaat atcatatggg atacacctga actttaatct ttaaatattg aagtttattt   2700
tcccttaacg cttaataaaa taaaaaagaa aattgggtgc tcagactacc caaatagaaa   2760
ctaccctgaa gtataaaaga tttagggaat cacctgtttt cccttgacat catctgcctt   2820
ttttgccatt tcccccagga actcaatgag ttaaaggacc agattcagga tgtagaaggc   2880
aaatacatgc agggattgaa agagatgaag gtaccaattc acagacgtgt ggtctcacga   2940
tattaaccca acttaactta aaaaaaaaaa caacatccta aagaagaaat tcaaagtgca   3000
tgcttactgt aaataggctc cagggtgtag aagaactcac aatggcagga gtgccggcat   3060
gggtgtacac tcaccatttt cccaaatgca ttgtttgaac caagattgaa aatgtaactg   3120
cccagtagaa aaggttacta acatactccc tgatgcatgc cttagactta ccatccttcc   3180
cccaggctta aaaccagttt ctcatttccc ataggcgtgt gccagacact tgaagaaggt   3240
tcttggtttt cttcactttt tgtagtagtt gtatacaaaa atgcttcagt tgatttgctt   3300
ctcaaaatat ctgatgtcta ctaataaggc cgtcctcaca tgccacactt ttgaaacatc   3360
ccaattattt gcaccctgta aaatgctact aattgaagta aagactgact atggcattgg   3420
ctttcttgga gcgtgtgcac actgctttta gagtgtgcag tgacttcatt gcaccagcca   3480
ggagatgtgg ttgccctgtt ccttgacagt aaggtgggca atcagtgact gtcttcctta   3540
ggcagcagcg gatcatggat ctggaagtgg gtggcgtatc tgttacttcc ttttcagccc   3600
cctagaaagt acctgcaaga tcatttgaat ttaatatcaa agggcaccag acagaggagg   3660
tgacatcgat catgactaat tcactatctt catatctgcc acctttcctg aaaggggggaa   3720
aaataagact ctggctttca attcatgcga aaaggagcca cttggccagg cgtggtggct   3780
cacgcctgta attccacact tggggaggcc gaggtggggtg gatcaccgga ggtcaggagt   3840
ttgagaccag cctggccaac atggtgagac cccgtctcta ctaaaaatat aaaaattagc   3900
caggtgtggt ggtgcgcacc tgtaatccca gctacttggg aggctgagtc aggagaatca   3960
cttgaacccg gcaggtggag gctgcagtga gccgagatcg tgccactgca ctccagcctg   4020
ggtgacagag cgagacactg tttcaaaaaa gaaaaaatgc tgctggggag ccactgaacc   4080
aaccggagac ccgctggtcc cacgtgaagc agctgtcctg gtgtggaggt acagagctag   4140
accagcactg gtccctccag ccccctggta gcctctgctg cacctgaact ggcagctctt   4200
gccgctgcct ttagctctgc atgtatgcgc cctgaaggtt ctgcctctct gttttggaat   4260
cgccttcccc tcctcatgtt tggggacctg caagggtgtg aggcacgtga gggcatcgcc   4320
atgcgtattt tacaggcctc tttctctgga ctgtccttca aagggaatga cctttgtctt   4380
tccaggacct acccagtgag atctgcctgc cattttccta tgagtcaaaa atctgaactc   4440
actactgctc ctttcctggt tcataagcca gagtagggct ggttggcagt cactggcttg   4500
tggccctatg taattatctc agccatcaca cactggctct ttcacaaggg ctggtcacac   4560
gcctcgagtg attcttcaga aatctgttga acagcctgac acccagccct aggacgccgt   4620
gctgggggga ttccccagct actgagtggg gccagagact ctactgcctc tgtgaccaca   4680
tccctttcca tactggtatc tcgtttgttc taatgagtgt gtccattgct tttaatagtg   4740
aattttctga gcaatgagaa tttgaccaaa ttgaaaaggg ggatttccat gcatttgaaa   4800
ttgccatgtg tttcttcttc tgatccattt gctctaagaa atatagtcta agtttaggac   4860
tgagggtttt tttttaacag aatactgaat gattctttgt tttgattttt ttattgcaat   4920
ttcaaaaata tgacctgctt tccacaggac tctctagcag aagttgaaga gaaatataag   4980
aaggctatgg tttccaatgc tcagctagac aatgaaaaga caaacttcat gtaccaggtt   5040
gataccctaa aagatatgtt gctggagctt gaagaacagc tggctgaatc taggcggcag   5100
tacgaagaga aaaacaaagt aagcattagt atgatacaga atgttaacaa taggctgcgt   5160
gcagtggccc atgcctgtaa ttctggtact ttgggaggcc aaggtgggag gattacttga   5220
gcccaagagt tcgagaccag cctgggcaac atggcgagac atcatttcta aaaagaatta   5280
aaacaattag ccaggtggta catggctgta gtcccagcta cttgggaagc tgaggtggga   5340
ggatcacttg agcctggaag gttgaggctg cagtgagctg tgttgacacc actgcactcc   5400
agcttgggca acagagaaga cactgtctca aaaaaaaaaa aaaaaaaagg gaatggtagg   5460
gtgtgtgtgt gtgtgtgtgt atgtatgtat gtatgtgtgg atatatcgtg tgtatgtatg   5520
tatatataat gtataaattta cattatgtat ttttatattt ttaaacaatg gctctccgct   5580
```

2138

```
tatccaggaa atccaaacat ctgagaataa aagtaccata ctctttgcca agtgacttga    5640
aatattgata cgtataattt caacatgtaa actggagaca gttttttctag gagaacatct    5700
aagctaaaag caaaaccatg aaaaaacata cctatgaaag agccaccatg ctcagataag    5760
gtgcgatcag atgcttcaag attttcctat tcatatgtat tttctgattt ttattttgtt    5820
ctctctcaac accatagggg aatagttatg agtatcaaag attttaagaa aattatatta    5880
ttttctgctg attgggaaaa gacacagtta ctctacttaa gaattaaata tatcaccaag    5940
ctcagagaga gagatagtct tatctgagct ttcattagga accactggaa ctagtttgtt    6000
aatagctgag atcagatata atttctattg agagtctcaa gcatgagtca tgtgttaaga    6060
taagtaatga cagcggactg attccacgaa ggctgggctt ggatgttctt tagatagaaa    6120
gcaaggaata cttttttcat acttttagga attgtccaat ttttcagaga ttctgagaaa    6180
aacagaaaat gtaatgtgtg agtgtcgttg ttgttgttgt ttttaactgg ctattatcct    6240
ctaaatccaa agggttaaaa ccaaggtacc cttgacaacc ttcaggcctg cttcttcgac    6300
tgctatagaa ttgagttgga agctgaagaa catttttacgc acaaagttcc ttatagctga    6360
actctgcaag agggggagctt ttcacaagac tgatgtcatg tgggaacgga ggagtggaga    6420
gcacagccca gccccccttc gggtggggggc ctgtaatgca tatgcattcc tcctggaatg    6480
ctgtcattag gcatcattca gtggactgaa aactcccgag tctcactcca gagaagctgg    6540
atggtgctag aatgctgtcc cgagatggac acaggggcca tgcaaagccc cacaggaggg    6600
cccttgtcat agccaggagg gcaccagcca cccccaagct aaaggaagtg ggcgaacaga    6660
agtgccaggg tgagcagaag ctcaggccag atcccatctc agatcacccg cctgacaggt    6720
ctagggaagg agcgtcctgc aggcctgtaa gctgtcagca aagtgagttg ggtctcaggc    6780
cgtcaccagg gattgcgctg ctgtgactgg gcaggaacac agcagagccg agctgccagc    6840
ttcctgggct gagcctcagg tggggaggcc aggcctgagg agcagctagg ttttgcaggc    6900
tctccatttg ctcccccaaa ctctcctgtt tttgtctctt aaggggcagc cctgaagcac    6960
agagctggcc accagctgtt catgagagat gctttagtag gccatgttta tctcctttttt    7020
atcccaaaga gttttccttg tcatatttca gcaggggcca tttttatggta agtccttgca    7080
gggcagcctc acccaggctc tcagcacagt gctgtggaag acaccaggct ccctggggggg    7140
gcccttcgtc ggctcttgct tcactgtaga taagaaatca gaaaatcctt gttgattgca    7200
tcaactcctc aggttaattt gacagtaagt catcaggcat catctataaa gtccagagga    7260
atctgtttgt gttgtttgaa agggcttgaa ggccaggtgc agtggctcat gcctgtaatc    7320
ccaacacttt gggaggctgg ggcaggtgga tcgcttgagg tcaagagttt gagaccagtt    7380
tggccaacat ggtgaaaccc gatctctacc aaaaatagaa aaattagccg ggcatggagg    7440
caggcgcctg tattcccagc tacttgggag gctgaggcag cagaatcgct tgaacccagg    7500
aggcagaggt tgcagtgagc tgagatcgca ccactgtact ccagcctgga caacagagca    7560
agactccatc tcaaaaaaat atataaataa aaaataaaat aaaagacctt gaagattgtg    7620
atgatgtagt agcaggtgat ttgttccaca gaaactataa atcgtgagag cctgaactgg    7680
catgccagaa acatgggatt ccactgcttt agtgctgttt ttctccttta caggaatttg    7740
aaagggaaaa acacgcccac agtatactgc aatttcagtt tgctgaagtc aaggaggccc    7800
tgaagcaaag agaggaaatg ctcgaggtag gtagcattct cctgctttttc ttttcctttt    7860
ttcccttgg agcattttgt caggccatga ctatcttagc ttaggctgca gtaataaaat    7920
accatacaca gcatggctta aacaacagaa attaattttc ttacaattct ggaggctggg    7980
agtccaagat caaggttggg ttcaggtgag gcctctcttc ctggcctgca gacagccacc    8040
ttcttgctat atccttcctc caacggtgga gaaaaagcaa tgtctctgat gtctcttcat    8100
ataaggacac taatcctatt tgatcaggac cccactctta tgacctcatt taaccttaat    8160
tacttcgtaa aaaccctatc tccaaataca gtcacattgg gcattagggc ttcaacagat    8220
gaatttagag ggacacaatt cattccatgg caattactaa agttttcagt tttcttaaat    8280
ctgagagttt aggctaactc tccatcccta gatttacgaa acagtccctc tcattggtga    8340
acattcctat tctttggtga tcttgtattt gtttggggag gtgtggtaga cagaataatg    8400
gtccccgaa gttgcctaca tccagatccc tggaaactgt aaatatgatg ccttacatgg    8460
ttaaagggcc cctgcagttg tgatgagaga ccttgagaga agggattatc ctggattatt    8520
tgatggaaca agcatccttc taagaggaag gcaactcaaa ggcagaagta gaagatgtga    8580
cacaggaagc tgaggttgga gcgatgcgag agaggggcca tgagccaagg aaagcagctc    8640
agtcttagaa gctgaaaaag gcagggaaac agattctccc tagagccttc cagaaaggct    8700
tgattttagc ccataagact cattttggac ttctgacctc tagaattgca agagaataaa    8760
tttgtgtttt aagctgctga atttatgacg attcattaca atggcaataa gaaactaata    8820
cagggttggt ttttaatttt ttgacttaat cggttcttta actgctgcct tgaagtgaga    8880
atttcaccca aagcaggttt tcttcctgca cttcttgaag ccggaagtag gacaaggaaa    8940
aaaatcctag aatgctgaca atgagttcag ggttgatgag gtgaaagagt gcttgcggcc    9000
tcactcactg tcccagctct caggttctct ctcgggctgg ggttttttctt cctctttaac    9060
cctttatctg ctttctgtct gttcctttcc tcaggaaatc cgacagctac agcagaaaca    9120
ggcgagttct atcagggaga tttctgatct tcaggaaaca atagagtgga aagacaaaaa    9180
gataggggta ggattcccaa gtcttgaaaa tctactcaaa tgggcagcct gcttagcaaa    9240
```

2139

```
tagagtttttt tcagagtctt tagtttgcaa aaccgcttgt ctgagtatgc atgcaactcc    9300
cacgtgacac aaagtcgtat taatttattt aattttatta agtagtgaat acactaactt    9360
atccaaattg atatgaactt ggattgtgac acggactctc catgagggt cttgtgaatg    9420
cgtagctgtg cgctctgcct gccccgtggc tgggccgggc cggtggttgt tgaaacagct    9480
ggagtgagga ggacactctg aggaggtctg atgtgtgcaa gtccagacgt cttgggatta    9540
tctgc                                                                9545
```

<210> 2086
<211> 7809
<212> DNA
<213> Homo sapiens

<400> 2086
```
aggtagaaga gagaccagaa aaagatttta ctgagaaggt aaggaatcgt tcataaacct      60
agagggtccc aaaagttgtg gatgaaattg ataagaaaat atgttgcttg gttttttta     120
ataaggatgt tcccagcga gggaactgga ctagaaagcg gcccacctaa cctggtatca     180
ccttcccgga ggtaggccac cgggagtcct gtccggtgtg cgttagatcc tgtagagcag     240
ggaggcgttt ataatgggcc ccaccatgga gtttagggtt aatccagcta atcgcagagc     300
atccaggagg tgcctggaaa tgatccctc cttacagttt actataagcc catgaagagt     360
ttccaatttg gaaatggaat taaagtaaca gtcctgtgat gttagattta tatgcagttt     420
tggttttgtc tgaaatcgca tctgtgttag tccgttctca cactgccata aagaacttcc     480
ctgagactgg gtaatttaca aagaaaagag ctttaattga ctcacagttc cgcatggctg     540
gggagacctc aggaaactta caatcatggt gaaaagggaa gcaggcacct tcttcacaag     600
gcgacaggag agagaacatg tgaaggagga actgtcaaac acaaagccat cagatctcct     660
gggagcccac tcactatcac gagaacagca tgggggaaac tgcccccgtg atccagtctc     720
ctcccaccag ggccgtccct catcttgtgg ggattatggg gattacaatt ccagatgaga     780
tttgggtggg gacacagagc taaaccatat cagcatgtga tcctctcaac gttccagggg     840
tctcgtaaca tgccgggcct gtctgcagcc acgctggcct ctctgggtgg gacttcctct     900
cggagaggca gcggagacac ctccatctcc atcgacaccg aggcatccat cagggaaatc     960
aaggtgagat gctctcttct tactgacaac ttgagagaac ctttttgtaaa aatcagtctt    1020
tagattaaaa aaaaaaaagt taattcataa agttctggat ctttcttctt ggtcctctct    1080
ccctcacctc ccctaaaata cggtgttctc ctaacatcaa gacccagctc agatagtgtc    1140
tcctgcagga atctgatcct acccactgac cccccagcag ggcggaccgt gtgccggccc    1200
cctgcgcccc tcagcacccg gggaatacct tagtgagagc acttggcacg ttgtgttgat    1260
gcacttggtc gtctctgtat gcttggtctg catagacatt cagtccacaa gtttggacac    1320
cagacggctt tacctacttt cacacaaccc ctccccacta agtatgttcc ccttcggcct    1380
agaacttgcc ctttcctttc tctttgtaat gtgcctttag tagccctcat ctttgtattt    1440
taatgatttt ttttatccca ctgtagtgta ggtattattc tctgctctat cctcagcacc    1500
caggacagtg ccaggcattt ggtagtattc tgtgtgtgaa agagaaacac ggtgctattt    1560
gttaaagtaa ctagggacag tgcatctgaa aacctgaaga ctggaagggc aggtgaggtg    1620
actagacctg tgtcctccag ggagcagaac caagacagaa gcagctgaaa ggagccagaa    1680
ctgactcaga ttctgaattt tctagtgctt taaactaggt ttaaaaggga agcaacttcc    1740
actggggatg tctgagcagc tggatggccg tttgccaggg aggacggaga gggatttaag    1800
catccaccag agtttggcca gggttacctt gaagatgctt ccaacaccta tgttttataa    1860
gtttacaaaa ccagaagagc catttcccat gtgccacccc tgggccacct gcagctcctt    1920
gttgcttccc ttttttttttc cttttttcttt tcttttctttt ctttctttttt ttttttttt    1980
tttttttttt ggagacaaaa gttttgcttt tgtcacccat gctggagttc aatggcacga    2040
tctcggctca ctgcaacctc cacctcccag gttcaagtga ttctccagcc tcagcctcct    2100
gagtagctgg gattacaggc gcccgccacc atgcccggtt aacttttgta tttttagtgg    2160
agacggggtt tcgccatgtt ggccaggctg gtcttgaact cctgacctca ggtgatccac    2220
ccactcggcc tcccaaagtg ctgggattcc aggcgtgagc cgctgcgcct ggcctgttgt    2280
ttccgtttct acagcagaac accaaagttg gcggcagtcc tgatgtttct ctgcccttag    2340
gttgcgcgtg ccgttcattt gttcaggtac ttactgagag ctggctggt gccagatgct    2400
gtccccggca ccaggaattt ggcaaagtag agacttggag ctccataaat gcagggaaaa    2460
agtgctactg attttttgcct ctagcatctt actgtacatt gcacagagta ggaactccta    2520
gtgcttgaat gaattactaa ataggagttg aaataacctg taccgttttc cgaggctcta    2580
ttttgtctgt tttttaaact gtgtaaaatc atatgagata cactaaaatt gtataaaatc    2640
atgtaaaaat atcatatggg atacacctga actttaatct ttaaatattg aagtttattt    2700
tcccttaacg cttaataaaa taaaaaagaa aattgggtgc tcagactacc caaatagaaa    2760
ctaccctgaa gtataaaaga tttagggaat cacctgtttt cccttgacat catctgcctt    2820
```

```
ttttgccatt  tccccagga  actcaatgag  ttaaaggacc  agattcagga  tgtagaaggc    2880
aaatacatgc  agggattgaa  agagatgaag  gtaccaattc  acagacgtgt  ggtctcacga    2940
tattaaccca  acttaactta  aaaaaaaaaa  caacatccta  aagaagaaat  tcaaagtgca    3000
tgcttactgt  aaataggctc  cagggtgtag  aagaactcac  aatggcagga  gtgccggcat    3060
gggtgtacac  tcaccatttt  cccaaatgca  ttgtttgaac  caagattgaa  aatgtaactg    3120
cccagtagaa  aaggttacta  acatactccc  tgatgcatgc  cttagactta  ccatccttcc    3180
cccaggctta  aaaccagttt  ctcatttccc  ataggcgtgt  gccagacact  tgaagaaggt    3240
tcttggtttt  cttcactttt  tgtagtagtt  gtatacaaaa  atgcttcagt  tgatttgctt    3300
ctcaaaatat  ctgatgtcta  ctaataaggc  cgtcctcaca  tgccacactt  ttgaaacatc    3360
ccaattattt  gcaccctgta  aaatgctact  aattgaagta  aagactgact  atggcattgg    3420
ctttcttgga  gcgtgtgcac  actgctttta  gagtgtgcag  tgacttcatt  gcaccagcca    3480
ggagatgtgg  ttgccctgtt  ccttgacagt  aaggtgggca  atcagtgact  gtcttcctta    3540
ggcagcagcg  gatcatggat  ctggaagtgg  gtggcgtatc  tgttacttcc  ttttcagccc    3600
cctagaaagt  acctgcaaga  tcatttgaat  ttaatatcaa  agggcaccag  acagaggagg    3660
tgacatcgat  catgactaat  tcactatctt  catatctgcc  acctttcctg  aaaggggggaa    3720
aaataagact  ctggctttca  attcatgcga  aaaggagcca  cttggccagg  cgtggtggct    3780
cacgcctgta  attccacact  ttgggaggcc  gaggtgggtg  gatcaccgga  ggtcaggagt    3840
ttgagaccag  cctggccaac  atggtgagac  cccgtctcta  ctaaaaatat  aaaaattagc    3900
caggtgtggt  ggtgcgcacc  tgtaatccca  gctacttggg  aggctgagtc  aggagaatca    3960
cttgaacctg  gcaggtggag  gctgcagtga  gccgagatcg  tgccactgca  ctccagcctg    4020
ggtgacagag  cgagacactg  tttcaaaaaa  gaaaaaatgc  tgctggggag  ccactgaacc    4080
aaccggagac  ccgctggtcc  cacgtgaagc  agctgtcctg  gtgtggaggt  acagagctag    4140
accagcactg  gtccctccag  cccccctggta  gcctctgctg  cacctctct  gttttggaat    4200
gccgctgcct  ttagctctgc  atgtatgcgc  cctgaaggtt  ctgcctctct  gttttggaat    4260
cgccttcccc  tcctcatgtt  tggggacctg  caagggtgtg  aggcacgtga  gggcatcgcc    4320
atgcgtattt  tacaggcctc  tttctctgga  ctgtccttca  aagggaatga  cctttgtctt    4380
tccaggacct  acccagtgag  atctgcctgc  cattttccta  tgagtcaaaa  atctgaactc    4440
actactgctc  ctttcctggt  tcataagcca  gagtagggct  ggttggcagt  cactggcttg    4500
tggccctatg  taattatctc  agccatcaca  cactggctct  ttcacaaggg  ctggtcacac    4560
gcctcgagtg  attcttcaga  aatctgttga  acagcctgac  acccagccct  aggacgccgt    4620
gctgggggga  ttccccagct  actgagtggg  gccagagact  ctactgcctc  tgtgaccaca    4680
tcccttttcca  tactggtatc  tcgtttgttc  taatgagtgt  gtccattgct  tttaatagtg    4740
aattttctga  gcaatgagaa  tttgaccaaa  ttgaaaaggg  ggatttccat  gcatttgaaa    4800
ttgccatgtg  tttcttcttc  tgatccattt  gctctaagaa  atatagtcta  agtttaggac    4860
tgagggtttt  tttttaacag  aatactgaat  gattctttgt  tttgattttt  ttattgcaat    4920
ttcaaaaata  tgacctgctt  tccacaggac  tctctagcag  aagttgaaga  gaaatataag    4980
aaggctatgg  tttccaatgc  tcagctagac  aatgaaaaga  caaacttcat  gtaccaggtt    5040
gataccctaa  aagatatgtt  gctggagctt  gaagaacagc  tggctgaatc  taggcggcag    5100
tacgaagaga  aaaacaaagt  aagcattagt  atgatacaga  atgttaacaa  taggctgcgt    5160
gcagtggccc  atgcctgtaa  ttctggtact  ttgggaggcc  aaggtgggag  gattacttga    5220
gcccaagagt  tcgagaccag  cctgggcaac  atggcgagac  atcatttcta  aaaagaatta    5280
aaacaattag  ccaggtggta  catggctgta  gtcccagcta  cttgggaagc  tgaggtggga    5340
ggatcacttg  agcctggaag  gttgaggctg  cagtgagctg  tgttgacacc  actgcactcc    5400
agcttgggca  acagagaaga  cactgtctca  aaaaaaaaa  aaaaaaaagg  gaatgctacg    5460
gtgtgtgtgt  gtgtgtgtgt  atgtatgtat  gtatgtgtgg  atatatcgtg  tgtatgtatg    5520
tatatataat  gtataattta  cattatgtat  ttttatattt  ttaaacaatg  gctctccgct    5580
tatccaggaa  atccaaactc  tgagaataaa  agtaccatac  tctttgccaa  gtgacttgaa    5640
atattgatac  gtataatttc  aacatgtaaa  ctgaagacag  ttttctagga  gaacatctaa    5700
gctaaaagca  aaaccatgaa  aaaacatacc  tataaagagc  caccatgctc  agataaggtg    5760
cgatcagatg  cttcaagatt  ttcctattca  tatgtatttt  ctgatttta  ttttgttctc    5820
tctcaacacc  ataggggaat  agttatgagt  atcaaagatt  ttaagaaaat  tatattattt    5880
tctgctgatt  gggaaaagac  acagttactc  tacttaagaa  ttaaatatat  caccaagctc    5940
agagagagag  atagtcttat  ctgagctttc  attaggaacc  actggaacta  gtttgttaat    6000
agctgagatc  agatataatt  tctattgaga  gtctcaagca  tgagtcatgt  gttaagataa    6060
gtaatgacag  cggactgatt  ccacgaaggc  tgggcttgga  tgttctttag  atagaaagca    6120
aggaatactt  ttttcatact  tttaggaatt  gtccatttt  tcagagattc  tgagaaaaac    6180
agaaatgta  atgtgtgagt  gtcgttgttg  ttgttgtttt  taactggcta  ttatcctcta    6240
aatccaaagg  gttaaaacca  aggtaccctt  gacaacttc  aggcctgctt  cttcgactgc    6300
tatagaattg  agttggaagc  tgaagaacat  tttacgcaca  aagttcctta  tagctgaact    6360
ctgcaagagg  ggagcttttc  acaagactga  tgtcatgtgg  gaacggagga  gtggagagca    6420
cagcccagcc  cccttcgggg  tgggggcctg  taatgcatat  gcattcctcc  tggaatgctg    6480
```

```
tcattaggca tcattcagtg gactgaaaac tcccgagtct cactccagag aagctggatg    6540
gtgctagaat gctgtcccga gatggacaca ggggccatgc aaagccccac aggagggccc    6600
ttgtcatagc caggagggca ccagccaccc ccaagctaaa ggaagtgggc gaacagaagt    6660
gccagggtga gcagaagctc aggccagatc ccatctcaga tcacccgcct gacaggtcta    6720
gggaaggagc gtcctgcagg cctgtaagct gtcagcaaag tgagttgggt ctcaggccgt    6780
caccagggat tgcgctgctg tgactgggca ggaacacagc agagccgagc tgccagcttc    6840
ctgggctgag cctcaggtgg ggaggccagg cctgaggagc agctaggttt tgcaggctct    6900
ccatttgctc ccccaaactc tcctgttttt gtctcttaag gggcagccct gaagcacaga    6960
gctggccacc agctgttcat gagagatgct ttagtaggcc atgtttatct ccttttttatc   7020
ccaaagagtt ttccttgtca tatttcagca ggggccattt tatggtaagt ccttgcaggg    7080
cagcctcacc caggctctca gcacagtgct gtggaagaca ccaggctccc tggggggggcc   7140
cttcgtcggc tcttgcttca ctgtagataa gaaatcagaa aatccttgtt gattgcatca    7200
actcctcagg ttaatttgac agtaagtcat caggcatcat ctataaagtc cagaggaatc    7260
tgtttgtgtt gtttgaaagg gcttgaaggc caggtgcagt ggctcatgcc tgtaatccca    7320
acactttggg aggctggggc aggtggatcg cttgaggtca agagtttgag accagtttgg    7380
ccaacatggt gaaacccgat ctctaccaaa aatagaaaaa ttagccgggc atggaggcag    7440
gcgcctgtat tcccagctac ttgggaggct gaggcagcag aatcgcttga acccaggagg    7500
cagaggttgc agtgagctga gatcgcacca ctgtactcca gcctggacaa cagagcaaga    7560
ctccatctca aaaaaatata taaataaaaa ataaaataaa agaccttgaa gattgtgatg    7620
atgtagtagc aggtgatttg ttccacagaa actataaatc gtgagagcct gaactggcat    7680
gccagaaaca tgggattcca ctgctttagt gctgttttc tcctttacag gaatttgaaa     7740
gggaaaaaca cgcccacagt atactgcaat ttcagtttgc tgaagtcaag gaggccctga    7800
agcaaagag                                                            7809
```

```
<210> 2087
<211> 1015
<212> DNA
<213> Homo sapiens

<400> 2087
cttctttggt ttaatgcagg atcaccagac tctgtggccc acgacctgtt tttgtgtagc      60
ccataagaca tacctttcta agtactatag ctgaaaaaca tcaaaagagt agtaatattt     120
tgtgacatgt gaaaattata tgaaattcaa atttctgtct gtaaacctca ctggaacaca     180
gccatgctca ttcgtttgta tatggtctgt ggctgctttc tccctacaac ggtagaattg     240
aacagttgca tcagagacct tatggcctgc taggccagaa atgttaagcc ctttacagag     300
aaagcttgct ggctcctgtt taatgcttta actgccctac tgaaaggcag gaggttgaaa     360
aaatgatggt agtcaaaagg aatgcatgaa atcctgttgt cttctgttag ctgattgcaa     420
gtagtacaca ggatatattt gagacatctc ttttcctatc tcccaccaaa ggataattca     480
ggcggatctc agtgcacagg cacaggcatt tgcctcattc ttgtttgtc tgtttttgaat     540
ttagttatgg gaatatttta atatctctca aaaatagggt atctggtgtg agtcagaatg     600
attatagaac atgcttgcct ggagaacagg aaatgcggga tccactcctg gtgtgctgtt     660
agctgaagga cgtcagaact gtcctttaac ctccctgcag gtctctaaat ggtaggattg     720
tttgggggatt acactagatc atctctaggc accgttcagc tcagtagaga cattgctgca     780
tggtggaagg agtgacctca gtgtgaatcc tggttctgtc cctttctgcc caggagacct     840
tgagcagctt atctaaatgc tgtgtgcctt tgttagctca tctgaaaatg tggctgtaag     900
aatgacctca tgagaatgga ctgagatcat attcttaaaa ctcttggcac taataggtat     960
ttaatctact ataactgtga aaattatgtc tgtgaactct ttttttttt ttttt         1015
```

```
<210> 2088
<211> 1015
<212> DNA
<213> Homo sapiens

<400> 2088
cttctttggt ttaatgcagg atcaccagac tctgtggccc acgacctgtt tttgtgtagc      60
ccataagaca tacctttcta agtactatag ctgaaaaaca tcaaaagagt agtaatattt     120
tgtgacatgt gaaaattata tgaaattcaa atttctgtct gtaaacctca ctggaacaca     180
gccatgctca ttcgtttgta tatggtctgt ggctgctttc tccctacaac ggtagaattg     240
aacagttgca tcagagacct tatggcctgc taggccagaa atgttaagcc ctttacagag     300
```

```
aaagcttgct ggctcctgtt taatgcttta actgccctac tgaaaggcag gaggttgaaa      360
aaatgatggt agtcaaaagg aatgcatgaa atcctgttgt cttctgttag ctgattgcaa      420
gtagtacaca ggatatattt gagacatctc ttttcctatc tcccaccaaa ggataattca      480
ggcggatctc agtgcacagg cacaggcatt tgcctcattc ttgttttgtc tgttttgaat      540
ttagttatgg gaatatttta atatctctca aaaatagggt atctggtgtg agtcagaatg      600
attatagaac atgcttgcct ggagaacagg aaatgcggga tccactcctg gtgtgctgtt      660
agctgaagga cgtcagaact gtcctttaac ctccctgcag gtctctaaat ggtaggattg      720
tttggggatt acactagatc atctctaggc accgttcagc tcagtagaga cattgctgca      780
tggtggaagg agtgacctca gtgtgaatcc tggttctgtc cctttctgcc caggagacct      840
tgagcagctt atctaaatgc tgtgtgcctt tgttagctca tctgaaaatg tggctgtaag      900
aatgacctca tgagaatgga ctgagatcat attcttaaaa ctcttggcac taataggtat      960
ttaatctact ataactgtga aaattatgtc tgtgaactct tttttttttt ttttt         1015
```

```
<210> 2089
<211> 130
<212> DNA
<213> Homo sapiens

<400> 2089
tgagacggag tttcgctctt gttgcccaga ctggagtgca gtggcatgat ctcggctcac       60
tgcaacctct gcctcccagg ttcaagcaat tctcctgcct cagcctcctg agtagctggg      120
attacaggca                                                             130
```

```
<210> 2090
<211> 527
<212> DNA
<213> Homo sapiens

<400> 2090
gttcctttaa aagccagctt ttctactaga atcaacatta tttgaattac atgcaattat       60
atgagatcat atcaatgcat aggaagctag acatgtatta gattgtggtt aagggcatac      120
gctttggagc catataatat agctgtggtt caaagcctgg ctttgccatt tacttactag      180
ctgtgtatga tcttggcctt ccatttcctc ctgggaatga taataatact tgctgtgaag      240
attaaatgaa attacccatg tgaaatgctt agcatggtac ctaagtagtg ccactctaaa      300
gtttcatggc ctcctactct ctggacacat acctatcctc tgtctgctag aactcctcac      360
ttccctgttc tcctaactta cttatccttc agagcccagt tcaagggacg tcttcatgaa      420
gtccccttg ccccagccct gtgcttccac agggcctgtg cacgcctctc tctgcttccc      480
actgtgtgcg ggccctacct cctcctttta ttgtgcttca ctttctt                    527
```

```
<210> 2091
<211> 2075
<212> DNA
<213> Homo sapiens

<400> 2091
agcaaactga atcagagaag gtgagtggca aagcccatgt agctggtggc attactagaa       60
cttagcactg tgatgcacaa aggcttaact gggtttggca gcaagggtct catggatact      120
ctttaagatg taggcccaga tctcttagta gtgaatccct gatgttccct ctcttggggc      180
tctggtttag caaggacagc gaggatactt tcctctctcc ctcctcctta ctcctctcta      240
ctaaggatta aggagccacc tcttcctcct taaggccttt gggagagatg ggtctcctgg      300
tattagaaag gagagcagac gcctagagtt ctgacctctt gggcctcccc taaacaaaaa      360
gcatagcccc ttcactaccc tagtaacaag tatgacctgt tgcctgttga ggtcaggtgt      420
acctgtgtgt ctctctctgt gatgtatgtg ggcttggtgt ccacatcaat gtgcgtgaat      480
actcctaccc acagactgct actgtgccaa tatagaggtt cataagaaag ataaaagaga      540
accagcagaa ccccaggttc tgcctctcct tcctcccttt gcccagataa aggtgtacag      600
tgtttgtggt gaggctgctg gacactgctg ttttgggctt tctagagaga atgcaaacat      660
gcaaaaacag tgtggtagtg taggcagaac aagatctaga atcagaagac ctggagtcga      720
atctcagctc caacacccac tggatgaacg tggacaagct gcttgatctc tcagatcctc      780
```

```
gatttcttca tctgtaagat ggaaacaata tgtgtctttt ctaaggggaa agatcaaatg    840
acatcatgta tgtgaaaatg cttagaaatg ggtgatgatg atgatgatga tactgattat    900
tagggtatct aataaagttg gggaaagaac aaaatccccc cctcacaccc tattgcacca    960
ccagccttct ccctccctgc tcaattatac ccatgttata gggaaggaaa tagggaagaa   1020
acttgtctaa ggtcacatgg atgttcgcaa caattgggat gcagaacttg atctgactcc   1080
caggccaggt ttgattttga tttgcagtgg cagagaggac taattttta ctaggttctg    1140
agccctgtac tgaactctgg attgccctgt acttggtggt ggtatacagt tcagcagttt   1200
ttagcatata cacgaatttg tgcagccata accactatct aattctagaa cattttatc    1260
accccaaaa gaaatcatgt acccatttgc agtcacttgc cattccctct tctccccagc    1320
cctgggaaac cactgaccta ccttatatct ctatgaattt gcctaatctg gacatttcat   1380
ataaatgcaa ttgtacatgt ggcctttgt ttctggcttc tttcacttag catgttttca    1440
aggttcattt gtgctgtagc atttatcagt actttgttcc tttttctagc tgagtaacgt   1500
gtgggtatat cacattttgt ttattcatct gttgagggat gtttgggttg tttctacttt   1560
ttgactattg tgattagtgc tgctatgaac attgatgtac agattttgt gtagatatgt    1620
tttcaattat cttggggcat ctttattttt taatgtcagt tttctatttt taaaaaatct   1680
agacaggttg gcaaatcatt tctgtaaaga gtcagtaaat attttagcct ttgtggtcca   1740
tgacattagg tatacagatt acaatttctg aactctgcca ttccagtgtg agagcagcca   1800
tagataatat gtaaacaaat gagcatggct atgttccaat aaaactttta aaaagcaggg   1860
gacagattgg gcctgtggac catagtatac caacccttaa tctaaatgac acattcacat   1920
gatacattat tctaaaggca caaaaagcaa aaattctccc tcccacctct gtcttccagc   1980
tacggggtta ccttccttga agcagttaat gttatgagat tttgtgtctc cttttagaca   2040
cagttaataa tgagcattaa agtggctata tacta                              2075
```

<210> 2092
<211> 2075
<212> DNA
<213> Homo sapiens

<400> 2092

```
agcaaactga atcagagaag gtgagtggca aagcccatgt agctggtggc attactagaa     60
cttagcactg tgatgcacaa aggcttaact gggtttggca gcaagggtct catggatact    120
ctttaagatg taggcccaga tctcttagta gtgaatccct gatgttccct ctcttggggc    180
tctggtttag caaggacagc gaggatactt tcctctctcc ctcctcctta ctcctctcta    240
ctaaggatta aggagccacc tcttcctcct taaggccttt gggagagatg ggtctcctgg    300
tattagaaag gagagcagac gcctagagtt ctgacctctt gggcctcccc taaacaaaaa    360
gcatagcccc ttcactaccc tagtaacaag tatgacctgt tgcctgttga ggtcaggtgt    420
acctgtgtgt ctctctctgt gatgtatgtg ggcttggtgt ccacatcaat gtgcgtgaat    480
actcctaccc acagactgct actgtgccaa tatagaggtt cataagaaag ataaaagaga    540
accagcagaa ccccaggttc tgcctctcct tcctcccttt gcccagataa aggtgtacag    600
tgtttgtggt gaggctgctg gacactgctg ttttgggctt tctagagaga atgcaaacat    660
gcaaaaacag tgtggtagtg taggcagaac aagatctaga atcagaagac ctggagtcga    720
atctcagctc caacacccac tggatgaacg tggacaagct gcttgatctc tcagatcctc    780
gatttcttca tctgtaagat ggaaacaata tgtgtctttt ctaaggggaa agatcaaatg    840
acatcatgta tgtgaaaatg cttagaaatg ggtgatgatg atgatgatga tactgattat    900
tagggtatct aataaagttg gggaaagaac aaaatccccc cctcacaccc tattgcacca    960
ccagccttct ccctccctgc tcaattatac ccatgttata gggaaggaaa tagggaagaa   1020
acttgtctaa ggtcacatgg atgttcgcaa caattgggat gcagaacttg atctgactcc   1080
caggccaggt ttgattttga tttgcagtgg cagagaggac taattttta ctaggttctg    1140
agccctgtac tgaactctgg attgccctgt acttggtggt ggtatacagt tcagcagttt   1200
ttagcatata cacgaatttg tgcagccata accactatct aattctagaa cattttatc    1260
accccaaaa gaaatcatgt acccatttgc agtcacttgc cattccctct tctccccagc    1320
cctgggaaac cactgaccta ccttatatct ctatgaattt gcctaatctg gacatttcat   1380
ataaatgcaa ttgtacatgt ggcctttgt ttctggcttc tttcacttag catgttttca    1440
aggttcattt gtgctgtagc atttatcagt actttgttcc tttttctagc tgagtaacgt   1500
gtgggtatat cacattttgt ttattcatct gttgagggat gtttgggttg tttctacttt   1560
ttgactattg tgattagtgc tgctatgaac attgatgtac agattttgt gtagatatgt    1620
tttcaattat cttggggcat ctttattttt taatgtcagt tttctatttt taaaaaatct   1680
agacaggttg gcaaatcatt tctgtaaaga gtcagtaaat attttagcct ttgtggtcca   1740
tgacattagg tatacagatt acaatttctg aactctgcca ttccagtgtg agagcagcca   1800
tagataatat gtaaacaaat gagcatggct atgttccaat aaaactttta aaaagcaggg   1860
```
```
2144
```

```
gacagattgg gcctgtggac catagtatac caacccttaa tctaaatgac acattcacat    1920
gatacattat tctaaaggca caaaaagcaa aaattctccc tcccacctct gtcttccagc    1980
tacgggggtta ccttccttga agcagttaat gttatgagat tttgtgtctc cttttagaca    2040
cagttaataa tgagcattaa agtggctata tacta                              2075
```

<210> 2093
<211> 478
<212> DNA
<213> Homo sapiens

<400> 2093
```
actgggaaca gcaggaaagg gcaaggtggt gacaatctaa gggaggcaaa tggataataa     60
ccagcatggt agggaatctt ctttgttgct gtggcactgt cgatctctgt tccctgaact    120
ctagtgtcct ccagactaga tttaaggtgt ggttccccgc taaattattc tctcacctcc    180
tttcagtctt tgctcaaaca tccttttatc agagaggctt tctgacatcc tgtgcaagat    240
agcacctctc ccccatcgct gttatcctta cccagtttaa ttccacgtag catctgccaa    300
cgcttgacat atttgttttt tgtttacttt ctggcctgtg acaactagaa tataagctct    360
gtgagagcat ttttctctta actgcttatc ttcaagtaaa cagaacagtg cctgtcctgt    420
aggaagtgtt tgatacatac agattgctca aatgaaaaaa gaagggtgcg agcaagcc     478
```

<210> 2094
<211> 1011
<212> DNA
<213> Homo sapiens

<400> 2094
```
agtccttgag gaacagaacc ctaaaagaga gaacacctgc ctaatctgac tcctccatca     60
gaataatctt ttgaactcct gagatttgcc cagtcatttt ggggccatgt ctgatgaaag    120
cttggtgatc ccttttgggt caaaaacaag ctctgactga agagatgcaa gattttctca    180
gatgatttgt gtgtcagtca gagttccgcc agagaaacac aaccagtagg atatattcta    240
tcttgtctgt cttcatatcc atgtatctgt catctaccta gatttaatgc aaggaattgg    300
tttatgcagt tgtagggggct ggctaggcaa atccaaaatc cacagggcag gccgtgtgga    360
agggaggtct ggaaactctc agacaagacc tgacattgca gtccactggt ggaatttctc    420
cttcttcagg gaaacctcag ctttcaacgg agtggatcag acccaaccat attatccagg    480
ataatctcct ttacataaag ttaactgatt gtagatgtaa attcacttta caagatacct    540
tcatagcaac acctaggtca gtttttgaat aactgggtat tatagcatag ccaggtcaac    600
acgtaaaatt gatcaccaca gtccatgtct tgttaacttg gcacctgtac acatttcctt    660
aaaccattta atctcccaat aaagacaata acaaagtaaa acttctgcct atcatgacac    720
agctaatctg tgtacaactg aaaatatgct cttttcctgg gagagaattc acagtccttg    780
actggtgttc acttttatcc ttgataatcc agtaacttta ataatattat gtaaatgtag    840
ctatttttaat aaattttatg ttagatgaca aggggataag agagggaaga aaaaatacat    900
aaacacaaac attcataaca aaacaatgaa tactcataat aattatagta ctaacttctg    960
caactgttca catgatgtgt tttataacta ccggtgttac aaaattactg g            1011
```

<210> 2095
<211> 478
<212> DNA
<213> Homo sapiens

<400> 2095
```
actgggaaca gcaggaaagg gcaaggtggt gacaatctaa gggaggcaaa tggataataa     60
ccagcatggt agggaatctt ctttgttgct gtggcactgt cgatctctgt tccctgaact    120
ctagtgtcct ccagactaga tttaaggtgt ggttccccgc taaattattc tctcacctcc    180
tttcagtctt tgctcaaaca tccttttatc agagaggctt tctgacatcc tgtgcaagat    240
agcacctctc ccccatcgct gttatcctta cccagtttaa ttccacgtag catctgccaa    300
cgcttgacat atttgttttt tgtttacttt ctggcctgtg acaactagaa tataagctct    360
gtgagagcat ttttctctta actgcttatc ttcaagtaaa cagaacagtg cctgtcctgt    420
aggaagtgtt tgatacatac agattgctca aatgaaaaaa gaagggtgcg agcaagcc     478
```

```
<210> 2096
<211> 1011
<212> DNA
<213> Homo sapiens

<400> 2096
agtccttgag gaacagaacc ctaaaagaga gaacacctgc ctaatctgac tcctccatca          60
gaataatctt ttgaactcct gagatttgcc cagtcatttt ggggccatgt ctgatgaaag         120
cttggtgatc ccttttgggt caaaaacaag ctctgactga agagatgcaa gattttctca         180
gatgatttgt gtgtcagtca gagttccgcc agagaaacac aaccagtagg atatattcta         240
tcttgtctgt cttcatatcc atgtatctgt catctaccta gatttaatgc aaggaattgg         300
tttatgcagt tgtaggggct ggctaggcaa atccaaaatc cacagggcag gccgtgtgga         360
agggaggtct ggaaactctc agacaagacc tgacattgca gtccactggt ggaatttctc         420
cttcttcagg gaaacctcag ctttcaacgg agtggatcag acccaaccat attatccagg         480
ataatctcct ttacataaag ttaactgatt gtagatgtaa attacattta caagatacct         540
tcatagcaac acctaggtca gttttgaat aactgggtat tatagcatag ccaggtcaac          600
acgtaaaatt gatcaccaca gtccatgtct tgttaacttg gcacctgtac acatttcctt         660
aaaccattta atctcccaat aaagacaata acaaagtaaa acttctgcct atcatgacac         720
agctaatctg tgtacaactg aaaatatgct cttttcctgg gagagaattc acagtccttg         780
actggtgttc acttttatcc ttgataatcc agtaacttta ataatattat gtaaatgtag         840
ctattttaat aaattttatg ttagatgaca aggggataag agagggaaga aaaaatacat         900
aaacacaaac attcataaca aaacaatgaa tactcataat aattatagta ctaacttctg         960
caactgttca catgatgtgt tttataacta ccggtgttac aaaattactg g                 1011
```

```
<210> 2097
<211> 981
<212> DNA
<213> Homo sapiens

<400> 2097
ataacttcga tgtactggac ttgcatttcc acttccgcca cgcgagggag aacctgcact          60
gggacggggt gcactggaat ggacgtgtgc accgctgcct ctcccagctg ctgctggccc         120
acgtggccga cgcctggggt gtggagctgc cccaccgcca ccccgtgggc gagtggatca         180
agaagaaaaa acctggcccg agagtcgaag ggccgcccca ggccaacaga aatcacccgg         240
ccttacctct gtccccaccc ttaccttccc ccacataccg ccccctgctt gggttcccac         300
cccagcgctt gccgctgctc ccgctcctgt ccccacagcc tcctcctccc attctccatc         360
accagggaat gccccggttc ccacagggtc ccccagatgc ctgttttttcc tcagaccata         420
ctttccagtc ggatcaattc tattgccatt cagatgtccc ctcatcagcc catgcaggtt         480
tcttcgtcga agacaatttt atggttggtc ctcagctgcc tatgcccttc ttccccacac         540
cccgttatca gcggcctgcc ccagtggtac ataggggttt tggcaggtat cgtccccgtg         600
gcccctatac gccctgggga cagcggcctc gaccttcaaa gagaagggcc ccagccaatc         660
ctgagccaag gcctcaatag acggacctag gccttatttc ctctttatga acatggattg         720
gacagatctg acacttcctt tccattgctt ggcctgaaca gactgacctt gttaacttaa         780
gcctggagtc catgcctcgt cttccttttg ttcattgctg ttaccaagaa agccaaggaa         840
gagcagcctg actcattctt cttggctgca gcctcttccc cacttcctgg gagtgaccca         900
gcgttattcc tgcctcctca ctcctattct ctttgccttt gtgtaaaaat aaaatggaaa         960
taaacaagtt gcacagaagt a                                                    981
```

```
<210> 2098
<211> 981
<212> DNA
<213> Homo sapiens

<400> 2098
ataacttcga tgtactggac ttgcatttcc acttccgcca cgcgagggag aacctgcact          60
gggacggggt gcactggaat ggacgtgtgc accgctgcct ctcccagctg ctgctggccc         120
acgtggccga cgcctggggt gtggagctgc cccaccgcca ccccgtgggc gagtggatca         180
```

```
agaagaaaaa acctggcccg agagtcgaag ggccgcccca ggccaacaga aatcacccgg      240
ccttacctct gtccccaccc ttaccttccc ccacataccg cccctgctt gggttcccac        300
cccagcgctt gccgctgctc ccgctcctgt ccccacagcc tcctcctccc attctccatc       360
accagggaat gccccggttc ccacagggtc ccccagatgc ctgtttttcc tcagaccata       420
ctttccagtc ggatcaattc tattgccatt cagatgtccc ctcatcagcc catgcaggtt       480
tcttcgtcga agacaatttt atggttggtc ctcagctgcc tatgcccttc ttccccacac       540
cccgttatca gcggcctgcc ccagtggtac ataggggttt tggcaggtat cgtccccgtg       600
gcccctatac gccctgggga cagcggcctc gaccttcaaa gagaagggcc ccagccaatc       660
ctgagccaag gcctcaatag acggacctag gccttatttc ctctttatga acatggattg       720
gacagatctg acacttcctt tccattgctt ggcctgaaca gactgacctt gttaacttaa       780
gcctggagtc catgcctcgt cttccttttg ttcattgctg ttaccaagaa agccaaggaa       840
gagcagcctg actcattctt cttggctgca gcctcttccc cacttcctgg gagtgaccca       900
gcgttattcc tgcctcctca ctcctattct ctttgccttt gtgtaaaaat aaaatggaaa       960
taaacaagtt gcacagaagt a                                                 981
```

```
<210> 2099
<211> 984
<212> DNA
<213> Homo sapiens

<400> 2099
gtggcatagc gctaaccaaa tccacttagg cttctgggct gcctccaggc tcttggctag       60
gcattctgct agcactctca tccctgggga gggtggatca tacttggctc ctccccacca       120
ggtggaacct gagcctccaa cagcagcctc aggtcattca taggtcaagc cccaggcctg       180
aactgccact agacaaggct tttggctccc ttcctgccct ctcgccaatc tcccaggtcc       240
gggcttggtg gagcctgtta tgcgggcact ccaggtccac tccctcaggg cagaggccac       300
agcgccatcc ccttccccat ggtctcccta cccccaacct gcactgggcg ctccgcccag       360
aggtgagtcc ctcccagccc ttctctcctt ctgtcctagc catccgcaga gccatcctgt       420
gcaaaggaag gagctaggct gtgcgccctg ggcgtcatga tccttctgcg ggcctccgaa       480
gtgcggcagc tgcttcacaa taagttcgtg gtcatcctgg gggactctgt gcatagggca       540
gtatacaagg acctggtgct tctgctgcag aaggaccgcc tgctcactcc cgggcagctt       600
agagcaaggg gggagctgaa cttcgaacaa gatgagctgg tggacggagg ccagcggggc       660
cacatgcaca acggccttaa ctaccgtgag gtccgcgagt tccgctccga ccaccatctg       720
gtacgttttt acttcctcac ccgcgtgtac tccgattacc tccagaccat cttgaaagag       780
ctgcagtcgg gcgagcacgc ccccgacctg gtcatcatga attcctgcct ctgggacatc       840
tccaggtatg gtccgaactc ctggagaagc tacctggaga acctggagaa cctgttccag       900
tgcctgggcc aggtgctgcc cgagtcttgc ctcctggtgt ggaacacggc catgcctgtg       960
ggcgaggaag tcaccggggg tttt                                              984
```

```
<210> 2100
<211> 118
<212> DNA
<213> Homo sapiens

<400> 2100
cctcagcctc ccgagtagct gggattacag gcatgcacca ccacgcctgg ctaattttgt       60
atttttagta gagacgaggt ttctccgtgt tggtcaggct ggtcttgaac tcctgacc         118
```

```
<210> 2101
<211> 984
<212> DNA
<213> Homo sapiens

<400> 2101
gtggcatagc gctaaccaaa tccacttagg cttctgggct gcctccaggc tcttggctag       60
gcattctgct agcactctca tccctgggga gggtggatca tacttggctc ctccccacca       120
ggtggaacct gagcctccaa cagcagcctc aggtcattca taggtcaagc cccaggcctg       180
aactgccact agacaaggct tttggctccc ttcctgccct ctcgccaatc tcccaggtcc       240
```

2147

```
gggcttggtg gagcctgtta tgcgggcact ccaggtccac tccctcaggg cagaggccac    300
agcgccatcc ccttccccat ggtctcccta cccccaacct gcactgggcg ctccgcccag    360
aggtgagtcc ctcccagccc ttctctcctt ctgtcctagc catccgcaga gccatcctgt    420
gcaaaggaag gagctaggct gtgcgccctg ggcgtcatga tccttctgcg ggcctccgaa    480
gtgcggcagc tgcttcacaa taagttcgtg gtcatcctgg gggactctgt gcatagggca    540
gtatacaagg acctggtgct tctgctgcag aaggaccgcc tgctcactcc cgggcagctt    600
agagcaaggg gggagctgaa cttcgaacaa gatgagctgg tggacggagg ccagcggggc    660
cacatgcaca acggccttaa ctaccgtgag gtccgcgagt tccgctccga ccaccatctg    720
gtacgttttt acttcctcac ccgcgtgtac tccgattacc tccagaccat cttgaaagag    780
ctgcagtcgg gcgagcacgc ccccgacctg gtcatcatga attcctgcct ctgggacatc    840
tccaggtatg gtccgaactc ctggagaagc tacctggaga acctggagaa cctgttccag    900
tgcctgggcc aggtgctgcc cgagtcttgc ctcctggtgt ggaacacggc catgcctgtg    960
ggcgaggaag tcaccggggg tttt                                            984
```

<210> 2102
<211> 173
<212> DNA
<213> Homo sapiens

<400> 2102
```
cattagcagc ttttaatcca ctaaaaaaac aagagtcttg gagaatggga cctttatctt     60
atctctgtgt ctcaaatctt agcacaacgc ctggcactta ataaatactg aatagcattt    120
ctggatgaat caacgagtga atgaagagat ggcttataaa taaatatttc tga            173
```

<210> 2103
<211> 5033
<212> DNA
<213> Homo sapiens

<400> 2103
```
cgcagaacca ggaaagtaac ggctacagac agtgagaaat agtttcgctc gccggctaga     60
aaaactctgt cggtaccaac cccagagcgt tgagagcagc ccacctccac gcttccttaa    120
cggagaggtg caggactcag acttcaccag cccactcggt cccagccttg tacgcaaaga    180
gacgccaagg acgcgctctc ccgcgtccag gcagccccag cttgctggct tgcctgcccg    240
cctgcgtgca gcactcggcc ggcgtgcagc atgaccctgt ggaacggcgt actgcctttt    300
tacccccagc cccggcatgc cgcaggcttc agcgttccac tgctcatcgt tattctagtg    360
tttttggctc tagcagcaag cttcctgctc atcttgccgg ggatccgtgg ccactcggta    420
agggtgtcct catagtgcag gtagagtggg ggaaggctca tgggcagatt gtctcctgag    480
ggacccagga caggtaagac tgtacaagag cctccatgaa tagtcgaatt gaggctcagg    540
tggagtgaag tcaggagtct ggtgcagcaa gcaccccttt ccaaggatag ggagagctcc    600
ccatccagga tatcctggag aaggacccca gctgggtcct tgggaaggct gctgcagaga    660
atgggcaccc agtccagtaa tcctgaggaa cagtataggc ttcttgtgct ggagggcctc    720
ccacctctcc caggactaaa gctgcactct catcccatcc ggtgggtgat gaccttcagg    780
ccaaaaggac agatgccagc agctcagact gcagtgttcc cctttgcact gggttgagac    840
acatgtgtat gggtgcctca tcctcaggac tgagactccc acattggatt agaagttgga    900
gccaactggg tgcattgtct tagactttcc ccctctccca gaacctaggt tgtgcatttt    960
tcagttctgg gaggacccag cttttctgca tcttaatctg tgttgctttc cctggaactg   1020
gtgcacctag gagtatctgc attcccacct cctcccctcg gagatcaggc tggggcctcc   1080
ctcttctgag ggaggtgacc cctgcgtgcc tagcacttct ggactcactg agcctcacca   1140
agcagtgact ggaccaggag gcagaaccag gaccaggcgc cagacagcta ggggagtgaa   1200
ggtggtggaa gagtgccagg aagtgggggt ggaggggagg tgctgttagg gtagatggga   1260
aatggggcta gggaggtgaa agtgcgtggt cacaaaatat cagaaatgcc agtagcccag   1320
agggacttgc aggaaaagcg tgcctaacat tagtctcaaa agtctggata taactaaaga   1380
tccaggtgaa gtggggtcaa gggtggtctt ggggactctg gtttggcagg gctcaggcct   1440
gacccgggtg cctattcctg cagcgctggt tttggttggt gagagttctt ctcagtctgt   1500
tcataggcgc agaaattgtg ggtgagtgtg tggtgcagcc catggggaga ggacggggtg   1560
aggaaggagg tgggcagagg gcacctggga caatagggaa ctggggttgg ttttctgctc   1620
cctcttccca ctctccagct ccttctaggg cccacttttt ggcccttacc atgcaaccac   1680
attggacctc taagtcccca tctctctgca gtgtcccacc tcccatacca ctctctaatt   1740
```

```
ccattttccc accctcatcc cacccccacc gtgtgccttt ccctacagct gtgcacttca    1800
gtgcagaatg gttcgtgggt acagtgaaca ccaacacatc ctacaaagcc ttcagcgcag    1860
cgcgcgttac agcccgtgtc cgtctgctcg tgggcctgga gggcattaat attacactca    1920
caggtgaggg ggctggggct aaatgaactc ctggagctgg gagatccccg gttaggtgag    1980
tgtgtcaggg atagctggag ggcctctcac atcccacaag ctcaaatagc ttgtggtcct    2040
cgtggatttg cgttttctcc aaccaccacc gaacccattt ctcccgccga gagcgccaca    2100
cccccacttt cctgtctgaa tccgcttagt tgcgaggtct ccgaccgcgg gcagccccat    2160
gagcccgcct caccccacag ggaccccagt gcatcagctg aacgagacca ttgactacaa    2220
cgagcagttc acctggcgtc tgaaagagaa ttacgccgcg gagtacgcga acgcactgga    2280
gaaggggctg ccggacccag tgctctacct ggcggagaag ttcacaccga gtagcccttg    2340
cggcctgtac caccagtacc acctggcggg acactacgcc tcggccacgc tatggtaagt    2400
gctggaggga aggctgtgtg cacgtgtgtg tgtgccagga gctgggccgt atgagcggga    2460
ggatgcaggc ctcggaggcg ctgagcagct gcagccagac ccgacgcgct cggggtgggc    2520
atgacagcct cgcgggttag aagatccacg agatctgcac agacggaatc cggagagact    2580
ccagccaccg cctggacctc aggagcccgc ttctcccccg gggaattccc ctgcaccgct    2640
gccatcccag tccctggctt tgacgctggg gtagggataa agaagagcgc agctgtggga    2700
accccggtgg gctgggagaa gcccgctcac agcgggtccc cccactcccc ggcagggtgg    2760
cgttctgctt ctggctcctc tccaacgtgc tgctctccac gccggccccg ctctacggag    2820
gcctggcact gctgaccacc ggagccttcg cgctcttcgg ggtcttcgcc ttggcctcca    2880
tctctagcgt gccgctctgc ccgctccgcc taggctcctc cgcgctcacc actcagtacg    2940
gcgccgcctt ctgggtcacg ctggcaaccg gtgaggaccg agagaatggg ccccgggggc    3000
taagggtgga gacaggattc acaccgggtg tgcactttcc agtttacaga atgaattcac    3060
atctattacc ctatttgccc ctctcaatag ttcgcagaaa caggcactgt tatgaccatt    3120
ttacagatga aaagtggggg gctcagaagg gtttggtgtc ttgccgtgtt tcatgtaatt    3180
cagattagag gtgtgtggcg ggaggtaaca caaggggtag gctccaaaag atggaagaag    3240
gcccgggcat cacgcctgta atcccagcac tttgggaggt cgaggcagga aggtcgtttg    3300
aggccagagt tcgagaccag cctgggcaac atagccctga ctccacatgc cctcctttct    3360
ttcgatcccc accgccacag gcgtcctgtg cctcttcctc ggaggggccg tggtgagtct    3420
ccagtatgtt cggcccagcg ctcttcgcac ccttctggac caaagcgcca aggactgcag    3480
ccaggagaga gggggctcac ctcttatcct cggcgaccca ctgcacaagc aggccgctct    3540
cccagactta aaatgtatca ccactaacct gtgaggggga cccaatctgg actccttccc    3600
cgccttggga catcgcaggc cgggaagcag tgcccgccag gcctgggcca ggagagctcc    3660
aggaagggca ctgagcgctg ctggcgcgag gcctcggaca tccgcaggca ccagggaaag    3720
tctcctgggg cgatctgtaa ataaaccttt ttttcttttg tttttaaaa actgttttc     3780
ccattaattt tcatggcttc tccgcgccgg ggtcgcacgt cctcatgagc ttcgctgggc    3840
tggagacagc ctagtacact ctccgcagtg ctgtgaaacc tgattctctg cgtcgactcc    3900
agagtaatag gggcgccctc tagtgaggcc ggagggaccc taccagagct agcatctttc    3960
tgaaccaccc cagggggacg ttaggtggca gtgatgaggc aggtcaccca ctcccccgtc    4020
ctggatgcca ctcagctagc ccagctgagt ggggtgggaa ggaatagcgt tttggagttg    4080
attccctaac ttcccacctg gcttcttgtg aggtggtgtt tgagggccaa ggtaggtgtc    4140
agcaaggcat agaaagataa atcccaagat tcttggcaag tcttgcaatc ttatgtagca    4200
aatttgggaa ctgaagctca aagagaatgt ggcatagttg gttaatgtta gacctaggat    4260
gagaagtttg gtttcccctc ctttccagtg ctgtctttca ttgtaccaaa aggccacaca    4320
agctggagaa gtaaaggaag aacaaaagga acccaggaaa aaggaaaaca agaggtgccg    4380
agggatgaga ggaaaccata ggagaatcat atgtaacccc caccctgctg gtgttatggg    4440
ggtgaagtta ggtttcagtg aatagcatct tgaagaggca aggcagcacg gaaaggctgg    4500
gttgctgtgc agataagcta gccctgctt ggccttatca tggcaacagg ctttatggac    4560
aggcccagca tctcttcagt cccttagggc tttttgtttt gttttgtttt ttaacatcag    4620
tatatagagc ctcctttttc tactccgtct gtagattggt gctgggtgtc tggtaacagc    4680
caccctgagg gcagttctgc tggttttatg gggcgccaat gaggtttgga gccagactgg    4740
aagtccaggt ggcctccacg gggaggaatg ttataaagca caatcaggat ctttgggtg     4800
tgcctcctta cagtatgcct tggtggagga agcctctgac aggggaatgt cctgggactt    4860
gggactgtca gccatggacc ggtagcgggg gctcaggagt ccaccttcct caggactcca    4920
ctccagcatg gggtcttcat ccacactctg gttgaagaaa gccttcagcc tgtgaggctg    4980
catcctgtgg gccaccgcca tagccaggcc cagcagcaca cacagcagtc ctg           5033
```

<210> 2104
<211> 134
<212> DNA
<213> Homo sapiens

2149

```
<400> 2104
cccgacctgc agcccaatat cagcgctgat ccactcagaa ctgaaggcct tgtatgatgt      60
gttggtgctg acctggccca cagaccactc agaactgaaa ttcacagctg tggttggggc     120
gttggacata tggg                                                        134


<210> 2105
<211> 5533
<212> DNA
<213> Homo sapiens

<400> 2105
ctacacagaa gacccaaggc tgcgatgctg gatacctcaa tttgggagct ggagactgga      60
tatgcaggat tgagttattt gagctgagaa cccaagaagg gctggcaata gctgaaggct     120
tgagtgtgtg ttaaatctga gaagtggaac cttgacctct ctcatcacaa tggttcacct     180
cccgagccac cccaacacac ataccccttt ccttacctgc tttccacttc cctcaggctg     240
agctccaagt ggcacaacag gagaaccatc acttaaattt ggacctgaag gaggcgaaga     300
gctggcaaga ggagcagagt gctcaggctc agcgactgaa agacaaggtg gcccagatga     360
aggacaccct aggccaggcc cagcagcggg tggtgagtga ggccccttgg caacaggaaa     420
cgggaaattc caagggcaag ttgtagagaa gcctgcgtgt ctaaagagaa ggggagagac     480
atggctaaag actaaacaac acaaccccga gtcctaatgc agtggagtgg agggagcgtt     540
tacctccctg gctgatgaat gattcactag gaactctgat ctccatctcc tcctttctcc     600
tgaggccgag ctggagccct tgaaggagca gcttcgaggg gccaggagct tgcagcctca     660
agccagcaga aagccaccct tcttggggag gagttggcca gtgcagcagc agccagggac     720
cgcaccatag ccgaactaca ccgcagccgc ctggaagtgg ctgaagttaa cggcaggctg     780
gctgagctcg gtttgcactt gaaggaagaa aaatgccaat ggagcaagga gcgggcaggg     840
ctgctgcaga gtgtggaggt agagggatgg ggggtacctg gcaatctgat ggccactgcc     900
cccacctctg tggggactcc tacatgtggt cagaccctct gggaggagag aagaggggtt     960
gagaacctta gaggacttgg gtggagaggg gctttgaggg aggtacactt tactttctag    1020
gcatgaccca tccctaaccg gggtatccca atcctgatca ccagagtacc ttccttggaa    1080
cagaaacatt ttctgtccta gaccccaggc cctgccataa tgcccattcc tgatcaagca    1140
gcacctgccg tcatgtcctg tccttcattc agagggtata ggaaatgaag gcaaaaaggg    1200
gaaagtgctc taaaaatgat gctttaaata aaggaaagga cacagtaagg gatggtgctg    1260
ttgacagtgg cgttcctttt tcttccccct ccaccctccc attttccttc ttggctatct    1320
ctcaggcaga gaaggacaag atcctgaagc tgagtgcaga gatacttcga ttggagaagg    1380
cagttcagga ggagaggacc caaaaccaag tgttcaagac tgagctggcc cgggagaagg    1440
attctagcct ggtgaggcat ccagccacca agggtcctgt cctatggcct cctgaggcat    1500
ccatacccct tctctctgtc ttgggtatgg gctcagaagt gctaggtgtc cactaccatg    1560
ttgggtggca tttcacttgc acacgcaagc cctcattggt ttgaaatgtg cattttttttc    1620
tgctctcagg gcacacatct gggcccagta gaggtgactt aggagaatta tagagtggcc    1680
ccttggtatg accaaggcct ctgcacccca gcctagagga agtcatgcag gtccccactc    1740
gagaggcaga gactaagact tagaaaactg agtatctgtg gcccaagaca aagtactcat    1800
ggaggaagtg ttgggaattc ctgtgtgtgt gtgtcagagc agggaagaag cagaggcatg    1860
gggagacctg gttctagatt gttggtcctg gtcccagagt ccaggttctt ggaggtacat    1920
tctaggctcc agattccatt gggccctctt ccctcaggta cagttgtcag aaagtaagcg    1980
ggagctgaca gagctgcggt cagccctgcg tgtgctccag aaggaaaagg agcagttaca    2040
ggaggagaaa caggtgagca cccataaccc aggccccgtg gatgccacag gtgaggactt    2100
gagggctaga aactttgtaa attcctgtca tctcttggct tagaaactgt tctctccaag    2160
agggcccgta ccctggcttc tcttattagc tgatttggca ggacagcgga tgatctctgg    2220
gagaagggag ggatgtaagt ggtgaagcag gggtgctggg gggagtgtct gcctgaagtt    2280
gccccaatct ttgctgaagg catctaatgc tgaggagcta agagttcttc ttgggtgcag    2340
cttctgcagg ctagcaaggt tggcaccttc ccattctcta gcacctgcct tttttccttcc    2400
caattccagg aattgctaga gtacatgaga aagctagagg cccgcctgga gaaggtggca    2460
gatgagaagt ggaatgagga tgccaccaca gaggatgagg aggccgctgt ggggctgagt    2520
ccgtgtagcc ccaatcttgt aacacctctt ccccactcta cctcccgctg ttgaggaagg    2580
ctccatgtaa ccttgctggg agctgccttt gcttctatg tgttttgcct tttctttcca    2640
gcacctggcc cctgtatagt ctaatgatac cctcatccag aggagacagc tggtccaact    2700
cctcacaaca catccttttt tcttctctgc ctgcttcatc tcctacaggc tgcccggcag    2760
ctctgacaga ctcagaggac gagtccccag aagacatgag gctcccaccc tatggccttt    2820
gtgagcgtgg agacccaggc tcctctcctg ctgggcctcg agaggcttct ccccttagtt    2880
```

```
gtcatcagcc agccggctcc catttctcct cacctctctg ggccagctga ggacagtagc   2940
tctgactcgg tgagcagtgg aggagcctgt gcagaagcag taaggagggg cagggccaaa   3000
cccaagtgtc ccagcctgga gtgcagcacg atcttggctc actgcagcct ctgcctcctg   3060
ggctgaagcg atcctcccac ctcagtctcc caagagtagc tgggaccaca ggcaggcacc   3120
cccggctaat tagagaagga atcttagcta tccagggctc tcttttttcccc aggggagagg   3180
aggcaggccc agcctctctt cagtgccaca ccagtagata tcatcccaaa acccagacca   3240
gcccaatagc ctcactgctt ctcccccaca gtcattctct tattattcac cagcccctca   3300
aaacgcctct cctgcctcac tcttcctaag cccctcaggt cactgtccta gccttggctg   3360
ctcttcccat acctgtccca atgtgctgct cccccatctt gggacaccac cccaaagccc   3420
aaccctgtct ctttggcatc caggaggctg aagatgagaa gtcagtcctg atggcagctg   3480
tgcagagtgg gggtgaggag gccaacttac tgcttcctga actgggcagt gccttctatg   3540
acatggccag gtgagttcaa ccagcaaggc caggagggag gtgggaggag gtcagaggga   3600
aagggcatct gtgtggacag tcaccaggcc ctgctcccaa cccctgccct tcttggcctc   3660
agccaagaaa aggagataca ggtatggtta acaaggaaaa tgactcactg ctccaaatcc   3720
cagatgcctt caggtaatcc ctacccctat cttatcaatg cactcagagg tcctgccttt   3780
aactggcttc tatgttgttc tagcaccatc ttctgcagag cccaaattgc cctgcttccc   3840
ctctctcctg cctctacccc ttccccaacc accaggtagg tacctagggt cctccgggga   3900
ggaagggagg tgaccatggc ccccaggaat aggagcagag agaagactgg gatccagcat   3960
ccatctggct acaactgaaa tgctttccct cttccctgac ttccctgggt aacccttagg   4020
gaagggaacc tatagaggtg ggggtttcag gtatcagatt gtccccttct gccttccctt   4080
ttattcccag gttcaagggg gcaggcacag ggaagagaga tttgatcatc tagtcccggt   4140
tttgcctgga tgtgagatgg gctcagggca gggaggggt gatgctgtca tccttctcgg   4200
ctggagcagg aagatgaagg acgatgtcag actcattttc agcctcatta ggcagcagac   4260
ggagatggag ggaggagagc aggaggctgg gggatgggct ctgcactgca gagaccagca   4320
gggactaaag aagagaggac atggggaact ggaaaaataa gccttccagg attgtgggga   4380
gaaagacgct gtgggagagg ccaggatgct gcattaggca caggataacc tgggaaccca   4440
ggcacatggg tcctgctctc cgaagtctgc aagtcaagaa gggaacagag cacgccgacc   4500
ctctcccttt cccctctgtc tctcttagtg gctttacagt gggtaccctg tcagaaacca   4560
gcactggggg ccctgccacc cccacatgga aggagtgtcc tatctgtaag gagcgctttc   4620
ctgctgagag tgacaaggat gccctggagg accacatgga tggacacttc tttttcagca   4680
cccaggaccc cttcaccttt gagtgatctt actccctcgt acatgcacaa atacacactc   4740
atgcacacac acactcacac acatgcatac acttaggttt catgcccatt ttctatcaca   4800
ctgggctcca tgatattctg ttccctaaga actgcttctg tgtgccctgt tttcatccca   4860
agatttctca cttcatcctc tcctacctgg ctctttttgtc cagggagggg gtcctgttcg   4920
gaagcagtgg ctgaatttat cccctgaaag tggttttgga ggaaccggga tggaggaggc   4980
cttcccctgt gggaatagaa tcgtccactc ctagccctgg ttgcttctga tacacagcca   5040
ctgcacacac acactcacac tcacactccc ttgtctgatg ccccaaagcc aattcctggg   5100
gcaccctacc ctctcttatt tggagtttcc gttggtttac ctgagttttc tctggggtct   5160
gcacagaggc agcagcatgg acatcatggc ctctcaggtc ccttttggtt ctcagtttca   5220
ttggttcctc tttctgttcc cccattgact tctgtgcccc accctagcct tttccataac   5280
cttaggtatt cagtttggag gggtttttttg tatttttgag gattcctgta ttctgtatcc   5340
tctcctcgca tctcctcaca tggaaagaaa taatgtattt gtgccttctg tgaggaatgg   5400
gggaacaagt gtcccaggta tccccatttc caaggccccc ctccctctcc aggtcccccc   5460
acagcaataa aagcttcccc ctgatatcca tccctttgta gtttgaacaa atatatttat   5520
atgatatgta tga                                                      5533
```

```
<210> 2106
<211> 5543
<212> DNA
<213> Homo sapiens

<400> 2106
ctacacagaa gacccaaggc tgcgatgctg gatacctcaa tttgggagct ggagactgga    60
tatgcaggat tgagttattt gagctgagaa cccaagaagg ctggcaata gctgaaggct   120
tgagtgtgtg ttaaatctga gaagtggaac cttgacctct ctcatcacaa tggttcacct   180
cccgagccac cccaacacac ataccccttt ccttacctgc tttccacttc cctcaggctg   240
agctccaagt ggcacaacag gagaaccatc acttaaattt ggacctgaag gaggcgaaga   300
gctggcaaga ggagcagagt gctcagggct cagcgactga aagacaaggt ggcccagatg   360
aaggacaccc taggccaggc ccagcagcgg gtggtgagtg aggcccttg gcaacaggaa   420
acgggaaatt ccaagggcaa gttgtagaga agcctgcgtg tctaaagaga aggggagaga   480
```

```
catggctaaa gactaaacaa cacaaccccg agtcctaatg cagtggagtg gagggagcgt    540
ttacctccct ggctgatgaa tgattcacta ggaactctga tctccatctc ctcctttctc    600
ctgaggccga gctggagccc ttgaaggagc agcttcgagg ggcccaggag cttgcagcct    660
caagccagca gaaagccacc cttcttgggg aggagttggc cagtgcagca gcagccaggg    720
accgcaccat agccgaacta caccgcagcc gcctggaagt ggctgaagtt aacggcaggc    780
tggctgagct cggtttgcac ttgaaggaag aaaaatgcca atggagcaag gagcgggcag    840
ggctgctgca gagtgtggag gtagagggat gggggggtacc tggcaatctg atggccactg    900
cccccacctc tgtgggggact cctacatgtg gtcagaccct ctgggaggag agaagagggg    960
ttgagaacct tagaggactt gggtggagag gggctttgag ggaggtacac tttactttct   1020
aggcatgacc catccctaac cggggtatcc caatcctgat caccagagta ccttccttgg   1080
aacagaaaca ttttctgtcc tagaccccag gccctgccat aatgcccatt cctgatcaag   1140
cagcacctgc cgtcatgtcc tgtccttcat tcagagggta taggaaatga aggcaaaaag   1200
gggaaagtgc tctaaaaatg atgctttaaa taaaggaaag gacacagtaa gggatggtgc   1260
tgttgacagt ggcgttcctt tttcttcccc ctccaccctc ccattttcct tcttggctat   1320
ctctcaggca gagaaggaca agatcctgaa gctgagtgca gagatacttc gattggagaa   1380
ggcagttcag gaggagagga cccaaaacca agtgttcaag actgagctgg cccgggagaa   1440
ggattctagc ctggtgaggc atccagccac caagggtcct gtcctatggc ctcctgaggc   1500
atccataccc cttctctctg tcttgggtat gggctcagaa gtgctaggtg tccactacca   1560
tgttgggtgg catttcactt gcacacgcaa gccctcattg gtttgaaatg tgcattttt   1620
tctgctctca gggcacacat ctgggcccag tagaggtgac ttaggagaat tatagagtgg   1680
cccccttggta tgaccaaggc ctctgcaccc cagcctagag gaagtcatgc aggtccccac   1740
tcgagaggca gagactaaga cttagaaaac tgagtatctg tggcccaaga caaagtactc   1800
atggaggaag tgttgggaat tcctgtgtgt gtgtgtcaga gcagggaaga agcagaggca   1860
tggggagacc tggttctaga ttgttggtcc tggtcccaga gtccaggttc ttggaggtac   1920
attctaggct ccagattcca ttgggccctc ttccctcagg tacagttgtc agaaagtaag   1980
cgggagctga cagagctgcg gtcagccctg cgtgtgctcc agaaggaaaa ggagcagtta   2040
caggaggaga aacaggtgag cacccataac ccaggccccg tggatgccac aggtgaggac   2100
ttgagggcta gaaactttgt aaattcctgt catctcttgg cttagaaact gttctctcca   2160
agagggcccg taccctggct tctcttatta gctgatttgg caggacagcg gatgatctct   2220
gggagaaggg agggatgtaa gtggtgaagc aggggtgctg gggggagtgt ctgcctgaag   2280
ttgccccaat ctttgctgaa ggcatctaat gctgaggagc taagagttct tcttgggtgc   2340
agcttctgca ggctagcaag gttggcacct tcccattctc tagcacctgc cttttttcctt   2400
cccaattcca ggaatcgcta gagtacatga gaaagctaga ggcccgcctg gagaaggtgg   2460
cagatgagaa gtggaatgag gatgccacca cagaggatga ggaggccgct gtggggctga   2520
gtccgtgtag ccccaatctt gtaacacctc ttccccactc tacctcccgc tgttgaggaa   2580
ggctccatgt aaccttgctg ggagctgcct ttgccttcta tgtgttttgc ctttctttc   2640
ccagaccctg gccctgtttt agtctaatga tacccctcat ccagaggaga cagctggtcc   2700
aactcctcac aacacatcct tttttcttct ctgcctgctt catctcctac aggctgcccg   2760
gcagctctga cagactcaga ggacgagtcc ccagaagaca tgaggctccc accctatggc   2820
ctttgtgagc gtggagaccc aggctcctct cctgctgggc ctcgagaggc ttctccccctt   2880
gttgtcatca gccagccggc tcccatttct cctcacctct ctgggccagc tgaggacagt   2940
agctctgact cggtgagcag tggaggagcc tgtgcagaag cagtaaggag gggcagggcc   3000
aaacccaagt gtcccagcct ggagtgcagc accgatcttg gctcactgca gcctctgcct   3060
cctgggctga agcgatcctc ccacctcagt ctcccgagag tagctgggac cacaggcagg   3120
caccccggc taattagaga aggaatctta gctatccagg gctctctttt tcccagggga   3180
gaggaggcag gcccagcctc tcttcagtgc cacaccagta gatatcatcc caaaacccag   3240
accagcccaa tagcctcact gcttctcccc cacagtcatt ctcttattat tcaccagccc   3300
ctcaaaacgc ctctcctgcc tcactcttcc taagcccctc aggtcactgt cctagccttg   3360
gctgctcttc ccatacctgt cccaatgtgc tgctccccca tcttgggaca ccaccccaaa   3420
gcccaaccct gtctctttgg catccaggag gctgaagatg agaagtcagt cctgatggca   3480
gctgtgcaga gtgggggtga ggaggccaac ttactgcttc ctgaactggg cagtgccttc   3540
tatgacatgg ccaggtgagt tcaaccagca aggccaggag ggaggtggga ggaggtcaga   3600
gggaaagggc atctgtgtgg acagtcacca ggccctgctc ccaacccctg cccttcttgg   3660
cctcagccaa gaaaaggaga tacaggtatg gttaacaagg aaaatgactc actgctccaa   3720
atcccagatg ccttcaggta atccctaccc ctatcttatc aatgcactca gaggtcctgc   3780
ctttaactgg cttctatgtt gttctagcac catcttctgc agagcccaaa ttgccctgct   3840
tcccctctct cctgcctcta ccccttcccc aaccaccagg taggtaccta gggtcctccg   3900
gggaggaagg gaggtgacca tggccccag ggataggagc agagagaaga ctgggatcca   3960
gcatccatct ggctacaact gaaatgcttt ccctcttccc tgacttccct gggtaaccct   4020
tagggaaggg aacctataga ggtgggggtt tcaggtatca gattgtcccc ttctgccttc   4080
cctttattc ccaggttcaa gggggcaggc acagggaaga gagatttgat catctagtcc   4140
```

2152

```
cggttttgcc tggatgtgag atgggctcag ggcagggagg gggtgatgct gtcatccttc    4200
tcggctggag caggaagatg aaggacgatg tcagactcat tttcagcctc attaggcagc    4260
agacggagat ggagggagga gagcaggagg ctgggggatg ggctctgcac tgcagagacc    4320
agcagggact aaagaagaga ggacatgggg aactggaaaa atagccttcc aggattgtgg    4380
ggagaaagac gctgtgggag aggccaggat gctgcattag ggcacaggat aacctgggaa    4440
cccaggcaca tgggtcctgc tctccgagtc tgcaagtcaa gaagggaaca gagcacgccg    4500
accctctccc tttcccctct gtctgctgct tagtggcttt gcagtgggtg ccctgtcaga    4560
agccaggctc tgggggccct gccgccccca catggaagga gtgtcctatc tgtaaggagc    4620
gctttcctgc tgagagtgac aaggatgccc tggaggacca catggatgga cacttctttt    4680
tcagcaccca gggccccttc acctttgagt gatcttactc cctcgtacat gcacaaatac    4740
acactcatgc acacacacac tcacacaaca tgcatacact taggtttcat gcccatttttc    4800
tatcacactg ggctccatga tattctgttc cctaagaact gcttctgtgt gccctgtttt    4860
catcccaaga tttctcactt catcctctcc tacctggctc ttttgtccca gggaggggtc    4920
ctgttcggaa gcagtggctg aatttatccc ctgaaagtgg ttttggagga accgggatgg    4980
aggaggcctt cccctgtggg aatagaatcg tccactccta gccctggttg cttctgatac    5040
acagccactg cacacacaca ctcacactca cactcccttg tctgatgccc caaagccaat    5100
tcctggggca ccctaccctc tcttatttgg agtttccgtt ggtttacctg agttttctct    5160
ggggtctgca cagaggcagc agcatggaca tcatggcctc tcaggtccct tttggttctc    5220
agtttcattg gttcctcttt ctgttccccc attgacttct gtgccccacc ctagcctttt    5280
ccataacctt aggtattcag tttggagggg tttttggat ttttgaggat tcctgtattc    5340
tggatcctct cctcgcatct cctcacatgg aaagaaaata atgtatttgt gccttctgtg    5400
aggaatgggg ggaacaagtg gtcccaggta tccccatttc caaggccccc ctccctctcc    5460
aggtccccccc acagcaataa aagcttcccc ctgatatcca tccctttgta gtttgaacaa    5520
atatatttat atgatatgta tga                                           5543
```

<210> 2107
<211> 5538
<212> DNA
<213> Homo sapiens

<400> 2107

```
ctacacagaa gacccaaggc tgcgatgctg gatacctcaa tttgggagct ggagactgga     60
tatgcaggat tgagttattt gagctgagaa cccaagaagg ctggcaata gctgaaggct    120
tgagtgtgtg ttaaatctga gaagtggaac cttgacctct ctcatcacaa tggttcacct    180
cccgagccac cccaacacac ataccccttt ccttacctgc tttccacttc cctcaggctg    240
agctccaagt ggcacaacag gagaaccatc acttaaattt ggacctgaag gaggcgaaga    300
gctggcaaga ggagcagagt gctcaggctc agcgactgaa agacaaggtg cccagatga    360
aggacaccct aggccaggcc cagcagcggg tggtgagtga ggccccttgg caacaggaaa    420
cgggaaattc caagggcaag ttgtagagaa gcctgcgtgt ctaaagagaa ggggagagac    480
atggctaaag actaaacaac acaaccccga gtcctaatgc agtggagtgg agggagcgtt    540
tacctccctg gctgatgaat gattcactag gaactctgat ctccatctcc tcctttctcc    600
tgaggccgag ctggagccct tgaaggagca gcttcgaggg gcccaggagc ttgcagcctc    660
aagccagcag aaagccaccc ttcttgggga ggagttggcc agtgcagcag cagccaggga    720
ccgcaccata gccgaactac accgcagctg cctggaagtg gctgaagtta acggcaggct    780
ggctgagctc ggtttgcact tgaaggaaga aaaatgccaa tggagcaagg agcgggcagg    840
gctgctgcag agtgtggagg tagagggatg gggggtacct ggcaatctga tggccactgc    900
ccccacctct gtggggactc ctacatgtgg tcagaccctc tgggaggaga gaagaggggt    960
tgagaacctt agaggacttg ggtggagagg ggctttgagg gaggtacact ttactttcta   1020
ggcatgaccc atccctaacc ggggtatccc aatcctgatc accagagtac cttccttgga   1080
acagaaacat tttctgtcct agaccccagg ccctgccata atgcccattc ctgatcaagc   1140
agcacctgcc gtcatgtcct gtccttcatt cagagggtat aggaaatgaa ggcaaaaagg   1200
ggaaagtgct ctaaaaatga tgctttaaat aaaggaaagg acacagtaag ggatggtgct   1260
gttgacagtg gcgttccttt ttcttccccc tccaccctcc cattttcctt cttggctatc   1320
tctcaggcag agaaggacaa gatcctgaag ctgagtgcag agatacttcg attggagaag   1380
gcagttcagg aggagaggac ccaaaaccaa gtgttcaaga ctgagctggc ccgggagaag   1440
gattctagcc tggtgaggca tccagccacc aagggtcctg tcctatggcc tcctgaggca   1500
tccatacccc ttctctctgt cttgggtatg ggctcagaag tgctaggtgt ccactaccat   1560
gttgggtggc atttcacttg cacacgcaag ccctcattgg tttgaaatgt gcattttttt   1620
ctgctctcag ggcacacatc tgggcccagt agaggtgact taggagaatt atagagtggc   1680
cccttggtat gaccaaggcc tctgcacccc agcctagagg aagtcatgca ggtccccact   1740
```

```
cgagaggcag agactaagac ttagaaaact gagtatctgt ggcccaagac aaagtactca    1800
tggaggaagt gttgggaatt cctgtgtgtg tgtgtcagag cagggaagaa gcagaggcat    1860
ggggagacct ggttctagat tgttggtcct ggtcccagag tccaggttct tggaggtaca    1920
ttctaggctc cagattccat tgggccctct tccctcaggt acagttgtca gaaagtaagc    1980
gggagctgac agagctgcgg tcagccctgc gtgtgctcca gaaggaaaag gagcagttac    2040
aggaggagaa acaggtgagc acccataacc caggccccgt ggatgccaca ggtgaggact    2100
tgagggctag aaactttgta aattcctgtc atctcttggc ttagaaactg ttctctccaa    2160
gagggcccgt accctggctt ctcttattag ctgatttggc aggacagcgg atgatctctg    2220
ggagaaggga gggatgtaag tggtgaagca ggggtgctgg ggggagtgtc tgcctgaagt    2280
tgccccaatc tttgctgaag gcatctaatg ctgaggagct aagagttctt cttgggtgca    2340
gcttctgcag gctagcaagg ttggcacctt cccattctct agcacctgcc ttttttccttc    2400
ccaattccag gaattgctag agtacatgag aaagctagag gcccgcctgg agaaggtggc    2460
agatgagaag tggaatgagg atgccaccac agaggatgag gaggccgctg tggggctgag    2520
tccgtgtagc cccaatcttg taacacctct tccccactct acctcccgct gttgaggaag    2580
gctccatgta accttgctgg gagctgcctt tgccttctat gtgtttgcc ttttctttcc    2640
cagaccctgg cccctgttta gtctaatgat acccctcatc cagaggagac agctggtcca    2700
actcctcaca acacatcctt ttttcttctc tgcctgcttc atctcctaca ggctgcccgg    2760
cagctctgac agactcagag gacgagtccc cagaagacat gaggctccca ccctatggcc    2820
tttgtgagcg tggagaccca ggctcctctc ctgctgggcc tcgagaggct tctcccttg    2880
ttgtcatcag ccagccggct cccatttctc ctcacctctc tgggccagct gaggacagta    2940
gctctgactc ggtgagcagt ggaggagcct gtgcagaagc agtaaggagg ggcagggcca    3000
aacccaagtg tcccagcctg gagtgcagca cgatcttggc tcactgcagc ctctgcctcc    3060
tgggctgaag cgatcctccc acctcagtct cccaagagta gctgggacca caggcaggca    3120
cccccggcta attagagaag gaatcttagc tatccagggc tctcttttc ccaggggaga    3180
ggaggcaggc ccagcctctc ttcagtgcca caccagtaga tatcatccca aaacccagac    3240
cagccccaat agcctcactg cttctccccc acagtcattc tcttattatt caccagcccc    3300
tcaaaacgcc tctcctgcct cactcttcct aagcccctca ggtcactgtc ctagccttgg    3360
ctgctcttcc catacctgtc ccaatgtgct gctcccccat cttgggacac caccccaaag    3420
cccaaccctg tctctttggc atccaggagg ctgaagatga gacagtcagt cctgatggca    3480
gctgtgcaga gtggggggtga ggaggccaac ttactgcttc ctgaactggc cagtgccttc    3540
tatgacatgg ccaggtgagt tcaaccagca aggccaggag ggcggtggga ggaggtcaga    3600
gggaaagggc atctgtgtgg acagtcacca ggccctgctc ccaacccctg cccttcttgc    3660
ctcagccaag aaaaggagat acaggtatgg ttaacaagga aaatgactca ctgctccaaa    3720
tcccagatgc cttcaggtaa tccctacccc tatcttatca atgcactcag aggtcctgcc    3780
tttaactggc ttctatgttg ttctagcacc atcttctgca gagcccaaat tgccctgctt    3840
cccctctctc ctgcctctac cccttcccca accaccaggt aggtacctag ggtcctccgg    3900
ggaggaaggg aggtgaccat ggccccagg gataggagca gagagaagac tgggatccag    3960
catccatctg ctacaactg aaatgctttc cctcttccct gacttccctg ggtaaccctt    4020
agggaaggga acctatagag gtgggggttt caggtatcag attgtcccct tctgccttcc    4080
cttttattcc caggttcaag ggggcaggca cagggaagag agatttgatc atctagtccc    4140
ggttttgcct ggatgtgaga tgggctcagg gcagggaggg ggtgatgctg tcatccttct    4200
cggctggagc aggaagatga aggacgatgt cagactcatt ttcagcctca ttaggcagca    4260
gacggagatg gagggaggag agcaggaggc tgggggatgg gctctgcact gcagagacca    4320
gcagggacta aagaagagag gacatgggga actggaaaaa taagccttcc aggattgtgg    4380
ggagaaagac gctgtgggag aggccaggat gctgcattag gcacaggata acctgggaac    4440
ccaggcacat gggtcctgct ctccgaagtc tgcaagtcaa gaagggaaca gagcacgccg    4500
accctctccc tttcccctct gtctctctta gtggctttac agtgggtacc ctgtcagaaa    4560
ccagcactgg gggccctgcc accccacat ggaaggagtg tcctatctgt aaggagcgct    4620
ttcctgctga gagtgacaag gatgccctgg aggaccacat ggatggacac ttctttttca    4680
gcacccagga ccccttcacc tttgagtgat cttactccct cgtacatgca caaatacaca    4740
ctcatgcaca cacacactca cacacatgca tacacttagg tttcatgccc attttctatc    4800
acactgggct ccatgatatt ctgttcccta agaactgctt ctgtgtgccc tgttttcatc    4860
ccaagatttc tcacttcatc ctctcctacc tggctctttt gtcccaggga ggggtcctgt    4920
tcggaagcag tggctgaatt tatcccctga aagtggtttt ggaggaaccg ggatggagga    4980
ggccttcccc tgtgggaata gaatcgtcca ctcctagccc tggttgcttc tgatacacag    5040
ccactgcaca cacacactca cactcacact cccttgtctg atgccccaaa gccaattcct    5100
ggggcaccct accctctctt atttggagtt tccgttggtt tacctgagtt ttctctgggg    5160
tctgcacaga ggcagcagca tggacatcat ggcctctcag gtcccttttg gttctcagtt    5220
tcattggttc ctctttctgt tcccccattg acttctgtgc cccaccctag ccttttccat    5280
aaccttaggt attcagtttg gaggggtttt ttgtattttt gaggattcct gtattctgta    5340
tcctctcctc gcatctcctc acatggaaag aaataatgta tttgtgcctt ctgtgaggaa    5400
```

2154

```
tggggggaac aagtggtccc aggtatcccc atttccaagg ccccctccc tctccaggtc    5460
cccccacagc aataaaagct tccccctgat atccatccct ttgtagtttg aacaaatata    5520
tttatatgat atgtatga                                                  5538
```

<210> 2108
<211> 5537
<212> DNA
<213> Homo sapiens

<400> 2108
```
ctacacagaa gacccaaggc tgcgatgctg gatacctcaa tttgggagct ggagactgga      60
tatgcaggat tgagttattt gagctgagaa cccaagaagg gctggcaata gctgaaggct     120
tgagtgtgtg ttaaatctga gaagtggaac cttgacctct ctcatcacaa tggttcacct     180
cccgagccac cccaacacac ataccccttt ccttacctgc tttccacttc cctcaggctg     240
agctccaagt ggcacaacag gagaaccatc acttaaattt ggacctgaag gaggcgaaga     300
gctggcaaga ggagcagagt gctcaggctc agcgactgaa agacaaggtg gcccagatga     360
aggacaccct aggccaggcc cagcagcggg tggtgagtga ggcccctggg caacaggaaa     420
cgggaaattc caagggcaag ttgtagagaa gcctgcgtgt ctaaagagaa ggggagagac     480
atggctaaag actaaacaac acaaccccga gtcctaatgc agtggagtgg agggagcgtt     540
tacctccctg gctgatgaat gattcactag gaactctgat ctccatctcc tcctttctcc     600
tgaggccgag ctggagccct tgaaggagca gcttcgaggg ccccaggagc ttgcagcctc     660
aagccagcag aaagccaccc ttcttgggga ggagttggcc agtgcagcag cagccaggga     720
ccgcaccata gccgaactac accgcagccg cctggaagtg gctgaagtta acggcaggt      780
ggctgagctc ggtttgcact tgaaggaaga aaaatgccaa tggagcaagg agcgggcagg     840
gctgctgcag agtgtggagg tagagggatg gggggtacct ggcaatctga tggccactgc     900
ccccacctct gtggggactc ctacatgtgg tcagaccctc tgggaggaga gaagaggggt     960
tgagaacctt agaggacttg ggtggagagg ggctttgagg gaggtacact ttactttcta    1020
ggcatgaccc atccctaacc ggggtatccc aatcctgatc accagagtac cttccttgga    1080
acagaaacat tttctgtcct agaccccagg ccctgccata atgcccattc ctgatcaagc    1140
agcacctgcc gtcatgtcct gtccttcatt cagagggtat aggaaatgaa ggcaaaaagg    1200
ggaaagtgct ctaaaaatga tgctttaaat aaaggaaagg acacagtaag ggatggtgct    1260
gttgacagtg gcgttccttt ttcttccccc tccaccctcc cattttcctt cttggctatc    1320
tctcaggcag agaaggacaa gatcctgaag ctgagtgcag agatacttcg attggagaag    1380
gcagttcagg aggagaggac ccaaaaccaa gtgttcaaga ctgagctggc ccgggagaag    1440
gattctagcc tggtgaggca tccagccacc aagggtcctg tcctatggcc tcctgaggca    1500
tccatacccc ttctctctgt cttgggtatg ggctcagaag tgctaggtgt ccactaccat    1560
gttgggtggc atttcacttg cacacgcaag ccctcattgg tttgaaatgt gcattttttt    1620
ctgctctcag ggcacacatc tgggcccagt agaggtgact taggagaatt atagagtggc    1680
 cccttggtat gaccaaggcc tctgcacccc agcctagagg aagtcatgca ggtccccact    1740
cgagaggcag agactaagac ttagaaaact gagtatctgt ggcccaagac aaagtactca    1800
tggaggaagt gttgggaatt cctgtgtgtg tgtgtcagag cagggaagaa gcagaggcat    1860
ggggagacct ggttctagat tgttggtcct ggtcccagag tccaggttct tggaggtaca    1920
ttctaggctc cagattccat tgggccctct tccctcaggt acagttgtca gaaagtaagc    1980
gggagctgac agagctgcgg tcagccctgc gtgtgctcca gaaggaaaag gagcagttac    2040
aggaggagaa acaggtgagc acccataacc caggccccgt ggatgccaca ggtgaggact    2100
tgagggctag aaactttgta aattcctgtc atctcttggc ttagaaactg ttctctccaa    2160
gagggcccgt accctggctt ctcttattag ctgatttggc aggacagcgg atgatctctg    2220
ggagaaggga gggatgtaag tggtgaagca ggggtgctgg ggggagtgtc tgcctgaagt    2280
tgccccaatc tttgctgaag gcatctaatg ctgaggagct aagagttctt cttgggtgca    2340
gcttctgcag gctagcaagg ttggcacctt cccattctct agcacctgcc tttttccttc    2400
ccaattccag gaattgctag agtacatgag aaagctagag gcccgcctgg agaaggtggc    2460
agatgagaag tggaatgagg atgccaccac agaggatgag gaggccgctg tggggctgag    2520
tccgtgtagc cccaatcttg taacacctct tccccactct acctcccgct gttgaggaag    2580
gctccatgta accttgctgg agctgccttt gccttctat gtgttttgcc ttttctttcc    2640
cagaccctgg cccctgttta gtctaatgat accctcatc cagaggagac agctggtcca    2700
actcctcaca acacatcctt ttttcttctc tgcctgcttc atctcctaca ggctgcccgg    2760
cagctctgac agactcagag gacgagtccc cagaagacat gaggctccca ccctatggcc    2820
tttgtgagcg tggagaccca ggctcctctc ctgctgggcc tcgagaggct tctccccttg    2880
ttgtcatcag ccagccggct cccatttctc ctcacctctc tgggccagct gaggacagta    2940
gctctgactc ggtgagcagt ggaggagcct gtgcagaagc agtaaggagg gcagggcca     3000
```

2155

```
aacccaagtg tcccagcctg gagtgcagca cgatcttggc tcactgcagc ctctgcctcc    3060
tgggctgaag cgatcctccc acctcagtct cccaagagta gctgggacca caggcaggca    3120
cccccggcta attagagaag gaatcttagc tatccagggc tctctttttc ccaggggaga    3180
ggaggcaggc ccagcctctc ttcagtgcca caccagtaga tatcatccca aaacccagac    3240
cagcccaata gcctcactgc ttctcccccca cagtcattct cttattattc accagcccct    3300
caaaacgcct ctcctgcctc actcttccta agcccctcag gtcactgtcc tagccttggc    3360
tgctcttccc atacctgtcc caatgtgctg ctcccccatc ttgggacacc accccaaagc    3420
ccaaccctgt ctctttggca tccaggaggc tgaagatgag aagtcagtcc tgatggcagc    3480
tgtgcagagt gggggtgagg aggccaactt actgcttcct gaactgggca gtgccttcta    3540
tgacatggcc aggtgagttc aaccagcaag gccaggaggg aggtgggagg aggtcagagg    3600
gaaagggcat ctgtgtggac agtcaccagg ccctgctccc aacccctgcc cttcttggcc    3660
tcagccaaga aaaggagata caggtatggt taacaaggaa aatgactcac tgctccaaat    3720
cccagatgcc ttcaggtaat ccctacccct atcttatcaa tgcactcaga ggtcctgcct    3780
ttaactggct tctatgttgt tctagcacca tcttctgcag agcccaaatt gccctgcttc    3840
ccctctctcc tgcctctacc ccttccccaa ccaccaggta ggtacctagg gtcctccggg    3900
gaggaaggga ggtgaccatg gcccccaggg ataggagcag agagaagact gggatccagc    3960
atccatctgg ctacaactga aatgctttcc ctcttccctg acttccctgg gtaacccttta    4020
gggaagggaa cctatagagg tgggggtttc aggtatcaga ttgtcccctt ctgccttccc    4080
ttttattccc aggttcaagg gggcaggcac agggaagaga gatttgatca tctagtcccg    4140
gttttgcctg gatgtgagat gggctcaggg cagggagggg gtgatgctgt catccttctc    4200
ggctggagca ggaagatgaa ggacgatgtc agactcattt tcagcctcat taggcagcag    4260
acggagatgg agggaggaga gcaggaggct gggggatggg ctctgcactg cagagaccag    4320
cagggactaa agaagagagg acatggggaa ctggaaaaat aagccttcca ggattgtggg    4380
gagaaagacg ctgtgggaga ggccaggatg ctgcattagg cacaggataa cctgggaacc    4440
caggcacatg ggtcctgctc tcctgaagtct gcaagtcaag aagggaacag agcacgccga    4500
ccctctccct ttcccctctg tctctcttag tggctttaca gtgggtaccc tgtcagaaac    4560
cagcactggg ggccctgcca cccccacatg gaaggagtgt cctatctgta aggagcgctt    4620
tcctgctgag agtgacaagg atgccctgga ggaccacatg gatggacact tcttttttcag    4680
cacccaggac cccttcacct ttgagtgatc ttactccctc gtacatgcac aaatacacac    4740
tcatgcacac acacactcac acacatgcat acacttaggt ttcatgccca tttttctatca    4800
cactgggctc catgatattc tgttccctaa gaactgcttc tgtgtgccct gtttttcatcc    4860
caagatttct cacttcatcc tctcctacct ggctcttttg tcccagggag gggtcctgtt    4920
cggaagcagt ggctgaattt atccctgaa agtggttttg gaggaaccgg gatggaggag    4980
gccttcccct gtgggaatag aatcgtccac tcctagccct ggttgcttct gatacacagc    5040
cactgcacac acacactcac actcacactc ccttgtctga tgccccaaag ccaattcctg    5100
gggcacccta ccctctctta tttggagttt ccgttggttt acctgagttt tctctggggt    5160
ctgcacagag gcagcagcat ggacatcatg gcctctcagg tccctttttgg ttctcagttt    5220
cattggttcc tctttctgtt cccccattga cttctgtgcc ccaccctagc cttttccata    5280
accttaggta ttcagtttgg aggggttttt tgtatttttg aggattcctg tattctgtat    5340
cctctcctcg catctcctca catggaaaga aataatgtat ttgtgccttc tgtgaggaat    5400
ggggggaaca agtggtccca ggtatcccca tttccaaggc ccccctccct ctccaggtcc    5460
ccccacagca ataaaagctt cccctgata tccatccctt tgtagtttga acaaatatat    5520
ttatatgata tgtatga                                                   5537
```

```
<210> 2109
<211> 436
<212> DNA
<213> Homo sapiens

<400> 2109
ggaaattaga gataatggat ctctcctctc tccatcccaa cccctcttta ttgatcctcc     60
tttaatgaaa gttaattata acaatgattt aattaataga atccctctct tcctttattg    120
cttcccgtat taagactatt aataaatacg agctgggctg acagaggcat ccatcacccg    180
cctgggattc cccccatccc tccttttacc ttcccccctc tccctctccc tctcttggcc    240
tataaacttg ccggggtagt gggggttaat cagagaggaa ttatgagcca acatccccag    300
caggaggtgc atttaatgaa atcatgtgtg atttattttc tggggggagt tggggcgaga    360
agaatctggg acccacacct cctggcttcc agtgagtggc tgccttgtgc aaaaaaggag    420
aatagtagac aaacag                                                    436
```

2156

```
<210> 2110
<211> 368
<212> DNA
<213> Homo sapiens

<400> 2110
aaggcgagag gattgttcaa gcccaggggt tcaaaaccag cctgggcaac gtagtgagac      60
cccatctcta caaaaaattt taaaaattag ccaggcatgg tggcatgcac ctgtagtccc     120
agctactcag gaagctgagg tggaaggatt gcttgagccc aggaggtcaa ggctgcagtg     180
tgctgtgatc gcacccctga acttcagcct gggtgacaga gcaagattct gtctcagaaa     240
aaaaaggggt ggggtgtggg gcctagtact ttcaaacctt tttagcagaa cccttttcctc    300
tcctcccacc aataaagttt ttaatcttgt gtggaatctc actgaataaa caaaaacaat     360
gttttatt                                                             368


<210> 2111
<211> 436
<212> DNA
<213> Homo sapiens

<400> 2111
ggaaattaga gataatggat ctctcctctc tccatcccaa cccctcttta ttgatcctcc      60
tttaatgaaa gttaattata acaatgattt aattaataga atccctctct tcctttattg     120
cttcccgtat taagactatt aataaatacg agctgggctg acagaggcat ccatcacccg     180
cctgggattc cccccatccc tccttttacc ttcccccctc tccctctccc tctcttggcc     240
tataaacttg ccggggtagt gggggttaat cagagaggaa ttatgagcca acatccccag     300
caggaggtgc atttaatgaa atcatgtgtg atttattttc tgggggaggt tggggcgaga     360
agaatctggg acccacacct cctggcttcc agtgagtggc tgccttgtgc aaaaaaggag     420
aatagtagac aaacag                                                    436


<210> 2112
<211> 8896
<212> DNA
<213> Homo sapiens

<400> 2112
cggtggcggc tgtgtgtcgc cggagccgaa gcgcgcaggc ccgtcccggt ggccggggag      60
cgggcgggtg ggggcgccat gtggttcatg tacctgctga gctggctgtc gctcttcatc     120
caggtggcct tcatcacgct ggctgtcggt gagactgcac gaccccggcc cgcgcgggct     180
cccgccccgg catcggtgct cgttgggggt cgcatcgcgg gggtttcgga gccactcggg     240
ggaccactgc ccggcgctcc cggccttcgc cgccccaacc ccttcccgcc tgatcctgcc     300
cctcctgtcg agcctggcag cccggcctga ccgtggctcc ttccaggtgt cacagagtcc     360
gctccggcac tgcccgagaa agggtgactc gagtgccgcc cccgcgtctg cggaccgcta     420
accgctgcgg ctcccactct tcgcgggcct gccgcgcgga acttttcccc aacgcctacc     480
gccgcctttg cgcctctggc ccttcatgct ccctgctctc tccacctttg acacttctcc     540
tctggctggt tcccattcgg cctcagttga gatgtcatct tttccgggaa gtccacaggg     600
gttgatggtc cagcagtgcc ctgtcctttc cctaaagtag catttctcac actaaactcg     660
tctgtctctc cctactgttc cccttccctt tcccaagctg ggtcagggaa ggacccttgt     720
ctgtcttttt cagctgtatt ctcagcccag ggacctggct catgccaagt gcccagcagg     780
tgtttattga atacgtgaaa ttccgttttc tgagccagag gttatcattg tactgtggca     840
tcaaatgcag actttcgttg attttatga gatttgtcct tagttgccct aagaaagttt     900
tacttctcca gacttggaag ggcaacacat gggatgtttg gtttgttctt gaccttctgg     960
ggtccatgaa gggtggatgg ggactgggct gcagagagag gggtgaccag gatggtggga    1020
gtgaccctgg ctgatagtct ccctgcctcc caccctgcag cggctggact ctattacctg    1080
gcagaactga tagaagaata cacagtggcc accagcagga tcataaaata catgatctgg    1140
gtaagtggca tctttctcca ggagtcctcc tcactctttt gccctgcctc aaaagcagga    1200
agtggggaga gtttggcatg gatgatgagg cctgtgtctc tgctgtttcc tgagcataca    1260
ctcttacctc cttgccctga acgctgtctt ttgggtctgc actcctgggc ccagatcttc    1320
cctggccgcc ttccccaagt ggcattgttt cactgcaggc cttgtgctct agtccttaag    1380
gtgacagcga agtgtacttc tctgttgaca agaccgtaga tttgactttg cttagctctc    1440
```

```
tcccgctgtc tttagccctt tgctctgctc acagcattta aaacttagag gagccataag    1500
acagttttgc atatatgttc attgccatct ttctaatcgg atcaagtgat ttgtcctaag    1560
atcggcacag cttcgctgcc ctcgcccttc cctggtctca tgggaggctt ctcttactga    1620
agacacagtc cttgccactg atatcaaagc cataggggtg actgctggtg gacagacttc    1680
cttcagctgc aggaaaggct ggggggtaggg gtgccattgg agagaaagcg tccacagccc    1740
ctcaagtcgc ctggtgtcag cagccatgtg cactctgggc atggctgagg ttgggagttc    1800
acagtggagg caagactata gccctcagct ctggtccaga ggcccagctt gtgggtgttg    1860
gcacagtaat tagcccttca ttcagccaac tgtcatttgc taagcactga caactgtagg    1920
tacttatcag tagtgttttt caaactgtag gcatgattca ttatttggct gtatagtagg    1980
tcacaatcag cattttttaa aaaaaggaac ataaatagaa ttgaaatttg agctttgaat    2040
catatatatg tatatatgtg ttggggtcac agtgtaaaat gttttctttt ttcttttttt    2100
ttttttgaga tggagtttcg ctcttattac ccaggctgga gtgcagtggc acaatctcag    2160
ctcaccgcaa cctctgcctc ctgggttcaa gcgattctcc tgcctcagcc tcccgagtag    2220
ctgggattat aggcatgtgc caccatgcct ggctaatttt gtatttttag tagagatggg    2280
gtttctccat gttggtcagg ctggtcacaa actcccaacc tcaggtgatc tgcctgcctt    2340
ggcctcccaa agtgttggga ttccaggcgt gagccacctc gcctggcaga tgttttttctt    2400
actgtgggtt gctgtcaaaa agtttgagaa atgggctggg tgcggtggct cacacctgta    2460
atcccagcac tttgggaggc catcagaagt ttgagaccag cctggccaac atggcaaaac    2520
cctgtctcta ctaaagacac aaaaattagc tgggcgtggt tgtgcatgcc tgtagtccca    2580
actactcagg aggctgaggc aagagaattg cttgaatcca ggagatcgcg ccactgcact    2640
ccagcctgga tgacagagtg agactccgtc tcaaaaaaaa aaaaaaaaat gttgccttttt    2700
gggagcagag aacctagctg ggggaggccag acctgtgaaa tgaggagatt gaagcatgaa    2760
cctagtgctg cccagagcgg gctggggggtt ggtgagtcca ggaacgttgc ctggaagaag    2820
cgccctgcac tgtctgcctc tggttgtttc agttctccac cgctgtactg attggcctct    2880
acgtctttga gcgcttcccc accagcatga ttggagtggg cctattcacc aacctcgtct    2940
actttggcct cctccagacc ttccccttca tcatgctgac ctcgcctaac ttcatcctgt    3000
cgtgtggtga gaggggacag agttggggag gcagctgatg tggttgggtg tgcccatctc    3060
catcctgggc actaaagggg atacagaaaa aggaagccag ctgttgaagt cctccaggaa    3120
gccaggctag ttgggaagat gcggttctta ctgctgagga ctctagagcc caccttggct    3180
ctagtgaata gaatttgttg gggctgggga ctcagacagg gagggctttc ccagagaggt    3240
aagtttgaag gagagtttgg gaaagaagag gttgtggatt ggctgaggca gggcccccaa    3300
ctgagcagtt ccagcctcaa aaaaaccact tggccagaaa aagcccaaag cccttccggt    3360
aggcaggcag ctgtccgtcc agtcctctga cccaaagtca ttgttaggac tggagcctca    3420
tggggctgtg agcaccttgc agactctggc ctggtgtgaa tgcctcctgg gggctgcagc    3480
ttctcatctc attctcactg gctgccgctg cctcgggctt gagcctggat gtggaggacc    3540
cagtcttctt ggcgttgccc tgccaccact ttctgaccct ggggaatcat tggccctctc    3600
tgggccttag cttctccatc tattcagaga ggatgtttct gaaagaacta ttgggagact    3660
cagtgggcat atagtaggtg catataggta tttacagata ttcctggaaa aggcttcgga    3720
aagtattttg gttgccaaga ttgccattgc tcctgttcat cattgctggc taccctagct    3780
ttcagtcagg gtatcagatg gagttagggg ttttttagag tgactttttct atttctatga    3840
gagagcctgg agggtgaata ttatccacac aaagggcata ttgttaaagc caaaactggt    3900
ttcttccttg ggtgtgattt caccaaagaa tttgttcagc agaggtttgt tagggagccc    3960
ttccatggag accaggcccc tctgtccagg gaagaagtcc tgcccccagc ccctcagcag    4020
caggctcccc tgacttcact cccttgatct gcccctttaat gcctaaaaga gttttttccaa    4080
aagatcttgt gggcaccagg cactatccta cctcccatta tctcttagcc ctagagtgtg    4140
gctaggcata gcagaactgt agtctttgcc ttagaatggg agaggcagga gagaagaaag    4200
gagacatgag aattgctgtg aggtgtgtgt gaggggacag tcagtttcag gggacatgtt    4260
ctttctggtg cctgcccttc acctcaccat gggaaccggc agggatgact gtctcttgag    4320
cagcctgtgt ccaggatatg cacacgtgcc ctctttata aactcagtta cacaccaagg    4380
aggggtggct gtgtgtgtgt gtgtgtccag aacgtatcag ttcacaccgg tatgccttac    4440
ctgggggcag gatgaggagg gaccccctcc cccagaatgt tgaggaacct gaagactgca    4500
cctcaaagca tctagcaagt cttgcccttt tattcctgag gagtgagagc ctttttatttt    4560
gagcaggcct tctccttgct gcccagtttg tttatttgag caggccttct ccttgctgcg    4620
agtttggagt agagcctctt aggggcgtct ggtctgcaca cccatgattt ctccccacct    4680
gtcactgtgg gagagctttc tttagccctc acatccacga aaaacgaggt tcatcgtcat    4740
gatgctttgg attatgtaac atagaagtct cacttttata acatgcaaag agccttcttc    4800
taatttttact cagaatgccc tgtgcagtgg gcaggttgag gctcattctc ccattttagc    4860
agatgggaaa cggttctagg cagtagccta ctctgagttg agtgtaaagt caggcctaag    4920
actccatgga ggctcccaac ttctgagggc cttttgaagt taaaagtaca gctttctgtt    4980
attcccctta aactgactga ctcttcattc cctcaacagg actagtggtg gtgaatcatt    5040
acctagcatt tcagtttttt gcagaagaat attatccctt ctcagaggta agaagtgtcc    5100
```

2158

```
agcacattca gctgttaaca gggacagggt agtaaaaggg aacttgcatg gtttacttta    5160
taaacttagc tatgatttga aactgaatct gttcaaggat tacatgtttg aaaaaaacaa    5220
aacatagatg gtttgagaaa gctgtgtgga tggggacaga ctgtgctcat ttggccgagg    5280
tggggaggac actgctcttc ctcagtgagt cctttgggtc ccctcgagg ggtcatcctg    5340
aggtcaggaa ggggtactag ggtgaccttc tctgacacag tcctcacagg gcagggatgg    5400
actgcacccc tgagccccag cttttcccag tggccgccaa ggttttcttc tcccacgatt    5460
tctccacacc ctgctgctcc agtttgaacc tctgggaaga gcaaggtcac ttctttgggg    5520
ggtgtgggtc agtcagtcat ggcttagcac tttgtctgcc tccttcagtc caggggagtt    5580
gcttgtccta gcgaccaaga tatgggggttt gtggccacat tcagtcattt tcagcctcca    5640
cctttcccca cagaaggatt tccatgtctg agggtggcgt tccctgcttc ccaggcctgg    5700
gcccccttttg gagatcaggt gtggccccct gtgcactctt gaccaacacg cagtcaccac    5760
acccagccca ctcttggcac ctccggggca ccctcttctc agtctctctt gttgccaggt    5820
cctggcctat ttcactttct gcctgtggat aattccgttt gcgttttttg tgtcactttc    5880
ggccggggag aacgtcctgc cctctaccat gcagccagga ggtgagaagg gatttgtaag    5940
gggcccaggt gggggcaagc cagcaaggcc tgggttggca ggggtccact gagggaacct    6000
gaatctagcc ctgtgttgga gacacctgga ctcggggttg ggagggccgt gttcacacac    6060
atgcgcacac acacacacac actctctctc tctctcatat tcttgcctgt atctccacag    6120
atgatgtcgt ctccaattat ttcaccaaag gcaagcgggg caaacgctta gggatcctgg    6180
ttgtcttctc cttcatcaaa gaggccattc tacccagtcg tcagaagata tactgacccc    6240
catgcaggca ggatgtgggg ggcaagatca ggagagtcag gcccctgggc ctctatgcca    6300
ggtggggacc agaagtcggg aaggcaccta ccacctgccc tggctttctt cccctcaact    6360
ctggagcccc atccccaccc tccttggggg gctcagcttg gctcagatct gatgcttcaa    6420
gaggctgtaa cctcagaggg caccaaggag ggtggcagag cctgcttagc caggaggccg    6480
aggtccctca gtcctcccct gtcccttcca aggtgggtca ggaggttctg gccccgctgg    6540
ggcaggcagg gcagggtctg tgaagcttaa gagcagatgg tgacaagttc tctgggcagg    6600
tggccatggg gaggggccat ggcttggcat gtccaacaga aatagttttt gctgttgaac    6660
ggtgatttct gtccaagtgc agatttccgt ttgaataaag cttcgcttct aggtggcact    6720
gtttgcctta ataccctgac agttcatctt cctttcttcc tgctaacctt ctgctctgga    6780
ctggactcac ttttctgctc cagggactcc ttttctgggt ttgggtcttg cccttcccaa    6840
gggactgttc ttgtggccct taatgggaag ggggcagggg tgaggagctg agcctgctca    6900
aggagtggga agtgggggcta taggcagcct ctctgatgca ctctcttcca tctctttccc    6960
caaggctccg tgactgtcaa actgggagta ggagagggga caatttagga ctgggctaga    7020
ttttcagaag aacatctaca atatcctatt tataaatctt cctctgggaa aaggagtggt    7080
ttctggctga atactatctt aggctcaagg agaaacaaaa taaaaattag cttccaggca    7140
gcctgtttttt aaagaaatgg gactaatggg agaagctgtt tgtcactcta agagcatcca    7200
agccctggcc cgtctgtgca ctcttggctc ctggggagat atatctgcct tctaagaagg    7260
caggccaggt cttgggcaca gacctgcatt tgttgacctt gcactccaac tatagtgcct    7320
tgcaagtgct caacagtaca tattggaatg aagtccctat gagagccatt tctggccatg    7380
ttctatacct caaagtgagg ctggcaggta cagagatgaa ctgtacacat gtgatacatt    7440
taagccactg gaaaaacccc tgtgcttgaa aatatttcct ctatatcatg cctggagttc    7500
catcatagcc cttcatttcc ttggctttag catttacctt ctcttaagaa taccagcttt    7560
cccctttccc tgagaggaag agcacatgtt ggtctcctct tagtgtgaac gagattgcca    7620
ggccctttttc tcctatgcac accaggatag acaaggcagg ggatactggc agcctgcatc    7680
atcctcccat tgggctgaca gctggcccta ctttcctccc tctgctgctt ggtccctcac    7740
cttgatgatg tggcttcgcc ccctccactc tactgccagt gttctcccag ggcttgctaa    7800
atccagcaga cccctttcct gtcttactag atctgggcag catttgacat ggctgatcac    7860
cccttgcttc ttggatggca cttccctggc acctctgtgg ctagttgtcc tacctccctg    7920
gctgttcctt tcaggcttcc gtgcaggctt ctccacttgc ccatgcacag tagggtcttt    7980
caggggttctg ctgtgggctc cctagggaag cccatccatc tggatggttt caaggatggt    8040
gaggaattta gagttgacct ccagccccaa catccttcct gatcacctga accacagttt    8100
tgctgccctc taggtgcaca gacaattcag gtccatggcc cagatggtac ttgctgtctt    8160
ctgcaaacct gccccttctg ggtacttccc ttgaccccga gatcactcag gagccagaca    8220
ggaaacttat tctattcctg ttttctcttt ctgcccacca catccaatct ctcaaaacgg    8280
tcaggtctac cttaacatct cttgatttga gccactccca ctgtcatcag ctttcacctg    8340
gattatcgtg acagcctcct actgcttctc tatcatgtgg ccagagctat cttcctaaaa    8400
tgcattgcat agttgatcaa gtcactctct ggcctaaaac cttccttggc tccctgctgc    8460
cctcaggata aagtctggac ccctcagcat ggcttgtgag actcatggtg tccttgtccc    8520
tgctcacctc tctggtctca tcacttgcct tcttgcattc tgggtcccag cctcctgtat    8580
ccagagatgc agtggctctc cattgccact ctgattcctc ctttcttttg gtcacagaga    8640
aagggtactt tctctgtcaa atctcaactt agacttgact tcctccaagg agctttggct    8700
atactctctc ctcccgaccc ccaccctggc atactacaca gatcactctg ggctcacttg    8760
```

2159

```
cctgcctaat ggtcatctcc ccagtagact gtaagctcct tgagggcaag gattgtgttg    8820
gaatttttgt attaacagtg cctggcttgg tgcctggcac ctagaaagca ctcaataaat    8880
gtttgtttaa tgaatg                                                     8896


<210> 2113
<211> 854
<212> DNA
<213> Homo sapiens

<400> 2113
tagcagggaa gcccatgcca gggggacata ttagttgccc tccaccccat tctgggtctc      60
agcttagagc ctgcagcagg aagggcttaa tctgaacaag aaacagaatt tcccagtggg     120
tccttccatc ctggaagcct gggcccttag ggctgggagg gcagtggggg tgccaaaatg     180
tgacaacttt tacaatgcca aggtgaagaa tagtgtctga cccccactc tcaacctaac      240
ttggatttcc tggcggcggt gggggggtgc caagagattt atttgcagag aaaagggagg     300
cctggggtct gggctttga ttgggaaggg tgactcctcg agcttgggag tgggaagccc      360
ataggcaccc ctccccttt cctcgccacc cacaacgtga attgccacac ttcagccttc      420
actgggctgc ctcaggggga gaggtagcca taataacttt atgggttggt ttgtggggag      480
ggcagggtgg ggagtccttg atgagatcgc acagctgcca ggaaggcttc atcgaatgtg      540
tcacgcaggt tcatggccag agtgtcggtc cagaaggtgt tgtcacccag gtgccgcttc      600
ctgggcactt ccctcatgct gatggggtaa aagccctggg gcaccttcat tctgtatggc      660
catacacgtg ggtacagcat gcgcagcagc acctcaaaag gcagccgcgg cacgggcgcc      720
acccagtggc cgtccactgt gtgcagccgc gcaccgccgt gcccatcagg cctcacctcc      780
aggaagctgc tgaagtcgtg ctccggagtg gggtctggat gcacgcccag gcggatgccc      840
tgcgagtggc tgat                                                        854


<210> 2114
<211> 397
<212> DNA
<213> Homo sapiens

<400> 2114
tcttgttcta catactttat tttgcatgcc tgtctccgcc actagatggg agacttgttg      60
acaaggacta accggttcca ggtgccctc aggaaccctc ccagaggtgt agtaaatgca      120
tccagcgcct agcggacgcc ctgcgtgccc ggcaaggggt gaggtgcagg cgatacaaag      180
gtgcagaatg taccccaaaa gaacagccta gaggggaatt aggccggagg atgaccgatt      240
aaaatcaccc caactcctga ttgtgccgct tcctaggtgc atgacccagg gcaacttcct      300
ttggccccgg cttccccgtc tataaaatga tttacattat ctgctcaaat ttccgacaag      360
aacacacctc gcctttatca cagagcgtgg cacatat                              397


<210> 2115
<211> 364
<212> DNA
<213> Homo sapiens

<400> 2115
aaccaccatc aaacaggatt ttcgcctgct ggggcaaacc agcgtggacc gcttgctgca      60
actctctcag ggccaggcgg tgaagggcaa tcagctgttg cccgtctcac tggtgaaaag     120
aaaaaccacc ctggcgccca atacgcaaac cgcctctccc cgcgcgttgg ccgattcatt     180
aatgcagctg gcacgacagg tttcccgact ggaaagcggg cagtgagcgc aacgcaatta     240
atgtgagtta gctcactcat taggcacccc aggctttaca ctttatgctt ccggctcgta     300
tgttgtgtgg aattgtgagc ggataacaat ttcacacagg aaacagctat gaccatgatt     360
acgc                                                                   364


<210> 2116
<211> 686
<212> DNA
```

```
<213> Homo sapiens

<220>
<221> SITE
<222> (95)
<223> n equals a,t,g, or c

<400> 2116
caccaaggcc agtttggaag cgaacggcta ccccgaaatt aagatactac agcgtgagtt      60
atgagaaagc gccacgcttc ccgagggaag aaagncggga cagttatccg gtagccggca     120
gggtcgaacc agaagagcgc acgaggagct tccaagggga aaacgcctgg tatctttata     180
gtcctgtcgg gtttcgccac ctctgacttg agcgtcgatt tttgtgatgc tcgtcagggg     240
ggcggagcct atggaaaaac gccagcaacg cggccttttt acggttcttg gccttttgct     300
ggccttttgc tcacatgttc tttcctgcgt tatcccctga ttctgtggat aaccgtatta     360
ccgcctttga gtgagctgat accgctcgcc gcagccgaac gaccgagcgc agcgagtcag     420
tgagcgagga agcggaagag cgcccaatac gcaaaccgcc tctccccgcg cgttggccga     480
ttcattaatg cagctggcac gacaggtttc ccgactggaa agcgggcagt gagcgcaacg     540
caattaatgt gagttagctc actcattagg cacccaggc tttacacttt atgcttccgg      600
ctcgtatgtt gtgtggaatt gtgagcggat aacaatttca cacaggaaac agctatgacc     660
atgattacga attcgagctc ggtacc                                        686


<210> 2117
<211> 364
<212> DNA
<213> Homo sapiens

<400> 2117
aaccaccatc aaacaggatt ttcgcctgct ggggcaaacc agcgtggacc gcttgctgca      60
actctctcag ggccaggcgg tgaagggcaa tcagctgttg cccgtctcac tggtgaaaag     120
aaaaaccacc ctggcgccca atacgcaaac cgcctctccc cgcgcgttgg ccgattcatt     180
aatgcagctg gcacgacagg tttcccgact ggaaagcggg cagtgagcgc aacgcaatta     240
atgtgagtta gctcactcat taggcacccc aggctttaca ctttatgctt ccggctcgta     300
tgttgtgtgg aattgtgagc ggataacaat ttcacacagg aaacagctat gaccatgatt     360
acgc                                                                364


<210> 2118
<211> 288
<212> DNA
<213> Homo sapiens

<400> 2118
attaagcgcg gcgggtgtgg tggttacgcg cagcgtgacc gctacacttg ccagcgccct      60
agcgcccgct cctttcgctt tcttcccttc ctttctcgcc acgttcgccg gctttccccg     120
tcaagctcta aatcggggc tccctttagg gttccgattt agtgctttac ggcacctcga     180
ccccaaaaaa cttgatttgg gtgatggttc acgtagtggg ccatcgccct gatagacggt     240
ttttcgccct ttgacgttgg agtccacgtt ctttaatagt ggactctt                288


<210> 2119
<211> 288
<212> DNA
<213> Homo sapiens

<400> 2119
attaagcgcg gcgggtgtgg tggttacgcg cagcgtgacc gctacacttg ccagcgccct      60
agcgcccgct cctttcgctt tcttcccttc ctttctcgcc acgttcgccg gctttccccg     120
tcaagctcta aatcggggc tccctttagg gttccgattt agtgctttac ggcacctcga     180
ccccaaaaaa cttgatttgg gtgatggttc acgtagtggg ccatcgccct gatagacggt     240
ttttcgccct ttgacgttgg agtccacgtt ctttaatagt ggactctt                288
```

```
<210> 2120
<211> 149
<212> DNA
<213> Homo sapiens

<400> 2120
aaacaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagaaaaaaa aaaaaaaaaa      60
aaaaaaagaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa     120
aaaaaacaaa aaaaaaaaaa aaaaaaaaa                                        149


<210> 2121
<211> 151
<212> DNA
<213> Homo sapiens

<400> 2121
aaaaaaaaaa aaaaaaaaaa gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaacaa      60
aaaaaacaaa aaaaaaaaaa aaaaaaaaaa taaataaaaa aaaaagagaa aaaaataaaa     120
ataaagaaat aaataaaaaa aaaaaaaaaa a                                     151


<210> 2122
<211> 202
<212> DNA
<213> Homo sapiens

<400> 2122
aaaaaaaaga aaaaaaaaaa aaaaaataaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa      60
aaaaaaaaaa aaacaaaaaa taaaaaaaaa aagaaaaaaa aaaaaataaa aaaaaaaata     120
aaaaaaaaca aaaaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa ataaacaaaa     180
aaaaaataaa acaaaaaaaa aa                                               202


<210> 2123
<211> 4171
<212> DNA
<213> Homo sapiens

<400> 2123
aggtcagacc gggaagctga tgtatgtgat gcacaactca gagtacccat tgagctgttt      60
cgccctcttt gagaatggcc cttgccttat tgctgacacc aactttgatg tgcttatggt     120
gaagctcaag ggcttttttcc agagtgctaa ggccagcaag attgagaccc ggggcaccag     180
gtaccagtac tgtgacttcc tggtgaaggt gggcacggtc acaatggggc ccagtgcccg     240
gggcatctct gtggaggtaa gaccttggtg aaaataggag caggatgttc tgaggggggct     300
gcttagcaaa gggctctgaa gattttccag ttcttctctt tttttttttt tgagacagag     360
tcttgttctg tcacccaggc tggaatgcaa tggcacaatc ttggcacact gtagcctcga     420
cctccagggc tcaagtgatc cttccgcctc agtctcccaa gtacctggga ctacacccac     480
cgaattaaat ttttttttttt tttagtaga aatgaggtct tactatgttg cccaggctga     540
tctcagactc ctgggctcaa ttgatcctcc catctcagcc ccccaaagtg ctggggttac     600
aggtatgagc caacacacct ggcctccagt cctcaattta aacagatatt tatgcctacc     660
tgatccctga ctccaaggca tctatgcttc ctcttcgtga atctttatc ctttctttaa     720
ttattcagag actctctaac acagctggca agtaggaagc gggaagctgg gttcaaagca     780
agcagaaagc ttcattagga agggtggctt gctggagaag ggaaaagata gtcaaggaag     840
gcaggtgagt tatgatatgg agggacagtc acccatgaca agaagttctg gagcagacca     900
ggacaactct tagaacaatt ttctggcggt gggccctaaa tcacatatgc ccatatacct     960
ttccttagta tgctttaaga taggttggga agcaaaaatg tgcttttcct tttgacatgc    1020
tgtctgctttt ctttcatggt agaaagagtg tttgtgtgtg agatcacttc atctgtgaca    1080
cagagagtgt gtgtgtgtct gtgtatacat acacatatat agtgacaagg agtgagagtg    1140
```

2162

```
gcagtgtagc agtggctggc ttctttggga ccagggaaag ttcacaacct ataatgtgcc    1200
cagcactgag ataagaaaac aagtaagctt gcaggtctac cctttgaaaa tttgtgattt    1260
atttattaag agtgaggctg aaacacacaa actctttttg aagttagtct gaaaatgcta    1320
taaaagaggc agttggctct gggaattcag gccagtgtga acactgctga ctttggttgt    1380
gatgcttcct gaggatcaac atttatgtag ggatttaaaa tgtagagaca tggggataga    1440
taagtctagg aagaatccca gttggagaaa agggcattag tggtagtttc tgctcagcaa    1500
cctctaggac caagacttct aaccctttcg gcttgtgata gaccttggat ttgctgagac    1560
ccactgagga cccgctgttt atcctccaca tttctaatct tgtagtagaa acacactcca    1620
cctgtttctt tacttatttc tccttagggt tgccagtaat tttgccctgc catctctcca    1680
gtaaaaaatt aagagagcag aaggagaaaa cctaagatgt atattttttg gcccatgaca    1740
cactatttgg gaaattcttt cttagggtca gaacccaggt tggttctact tagggagtaa    1800
aatttggtct tgaaaaaaac tcatgagcat atgtgtccac tctactctct acttaccacc    1860
cccacacaca ttttccttct ctttctcttt gttgtgtctc ttagaatttt cttgagctct    1920
ccttgaatct ttacccagca tagcagggac aacacagtcc tgagatcatc aaaaggggcc    1980
cagatctgct tctgggtcct ctgggagggc tgcgggttgg cacagctcca ggatgagaag    2040
gtcaaagatg cctaaagatg ctgggtattg agcccagtgt ttaggttgaa tgtttcctgt    2100
ggaccaatac tgtgctagga ggtgtgtgtc tttagctcgg ggttggggaa gatgggagca    2160
ggaggcagga ggtacaagag aagcagacct tgtcttagcc ttcattcacc ctcattctct    2220
gtgcttttgg ttcccaggtg gagtatggcc cctgtgtggt agctagtgac tgctggagtc    2280
tgctgctcga gttcctacag agttttctag gcagccacac accaggggct cccgcagtgt    2340
ttgggaacag acatgatgcg gtctacggcc cagcagatac catggtccag tacatggaac    2400
tcttcaacaa gatccgcaag cagcagcagg tgccggtggc tgggattcgt tagtgatgag    2460
cagctgccag ctgagctctg tcaccagggg tactccacag gaggagcagg tgctgacttt    2520
caggtccctg gacccccagaa acccagggta gacatggact ctactctcct tctctggttc    2580
tcagctgtgg cttttgttct ggggctgagt cccctcccca accccctgac tctcacacat    2640
agcccccat cagctgtttt actccgtgcc ttactggatt tggcctgtcc tcaagaatgg    2700
taattatgaa gagtggagaa gtttggacct tgcctccttt aggggaaagg taggacagga    2760
atgtccctgc ctggtactgg tgggggaaat agtccgtatc cccaactatt aaggatttgt    2820
cccaggccaa tggtgaacat gctgcatttt atgtttggat tgtgctgtaa taagagcctc    2880
ttccttccct cagaggatgt ggctgggctt ctatcctaga gatggagtag aaggcacaac    2940
tggtttgata gttactattt tctgacctgt ttgctgaagt gatttgcgaa ttgactttcc    3000
tagggtgttg cctgagtcct ttgaaatctc cttctgacat cttttccttc tgttgtgaaa    3060
tatgttaagc cacaggccaa actgctataa gatcgaagtt tgttttttc tcacctaata    3120
atagagaggt aatcagatgg tctagggcag atttaactct acaaggttat caggaacttt    3180
gtttccttct gtcttattca gccattccca gtatgttttc ttacccataa gatcaaagca    3240
gactcatcag ctccatatct gcattccact ggggaaagag agagagaaaa gagcagattt    3300
taaaaaaaag atatgactga gcattgctca gatcactgtg gccacacttt gctgaaagag    3360
atgctgggac atagaacctc ttatctgggc agtcatgtgc tgagttaaaa ctcagggatt    3420
ctgtgactac aagatgaaag acaatttggt tgctgagatg cagttaatgg cttctgttac    3480
atggagctca atggacgtgc ccaggaatgc ttttggctgt tattttgcag ttaatacctc    3540
ctgtaactaa agcatttgtt tatgagttga cttgagagaa gggctgatct cagagccgct    3600
ttgagctaag ttggattagt cacactagga agttaattcc acacctttcg tctaagtctc    3660
agtattgagg cctctccagt tctcatgcac cctgatctta gggttagaat acttgaccct    3720
gatacctgca ccatgcttca tggttcctga gctctttctc ctgtttcatt tgagcctcca    3780
aactacatat ttggtcatat tgcctgccta ccccatgcct gctgcagaaa tattcatcca    3840
ggttaacctt gatatacaca gagatggtct tggagaattg tgaatgtatg tactgtattg    3900
tcatcaagga tactgtccct tatttgaagg catctaaaga gaaactgttt tcagatccaa    3960
gtgctcagat ctaaagcctc tgcaacaagt caggtggtgg tcatgtttcc cttctagttt    4020
tggctgacag gaagctcagt tcagtaccat aactacagaa cctgtcatct gtatttttg    4080
ttctcacccc gttttgtta ttttgtttct ggttttttat attgaggtat gttttagata    4140
tagtttacaa aaataaaacg cacagatctt a                                   4171
```

```
taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa      60
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa caaaaaaata aaaaaaaaaa aaataaaaaa     120
```

aaaaaaaaaa aataaactaa aaaaaaaaaa taaaaaaa   158

<210> 2125
<211> 170
<212> DNA
<213> Homo sapiens

<400> 2125
gaaaaaaaaa aaaaaaaaaa aataaaaaaa aaaaagaaaa aaaaaaaaaa agaagaaaaa   60
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   170

<210> 2126
<211> 151
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (4)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (45)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (89)
<223> n equals a,t,g, or c

<400> 2126
aaanaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaagga aaaanaaaga aaaaaaaaaa   60
aaaaaaaaaa agaaaaaaaa aaaaaaaana aaaaaaaaaa agaaaaaaaa aaaaaaaaaa   120
aaaaaaagaa aaagggaaaa aaaaaaaaaa a   151

<210> 2127
<211> 77
<212> DNA
<213> Homo sapiens

<400> 2127
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   60
aaaaaaaaaa aaaaaaa   77

<210> 2128
<211> 77
<212> DNA
<213> Homo sapiens

<400> 2128
aaataaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   60
ataaaaaaaa aaaaaaa   77

<210> 2129

2164

<211> 117
<212> DNA
<213> Homo sapiens

<400> 2129
gcagtggcac aatctcggct cactgcaacc tccgcctcct gggttcaagc gattctcctg   60
cctcagcctc ccgagtagct gggattacag gcgcatgcca ccatgcctgg ctaattt   117

<210> 2130
<211> 1940
<212> DNA
<213> Homo sapiens

<400> 2130
atttgtaacc aggctgtcat tccatgtttg tttggaagct tagagataac atttatgaac   60
tttgtgacac atagtagttg ctcaataaat gttaactgta gaaacacatt gattagtttc   120
acttcagaaa tagacactta gagttcaaaa ttcccatctg cctagctcct gaggcccact   180
ttcttaccag aatctttcct gataccctct cctgcataaa atggttcctc ttttgagact   240
ttgtagctct tttgtacttc tcttattctg ttacgttact gcaaaaaaaa aaaaaaagaa   300
agaaaagaaa agtgccaatt gtgtacatgc tttcctccct gctggaatgt aaactttgta   360
aaggcatgat ccatagcaga tacttcttat tacaaactac ctggcagaat ttctttctaa   420
agaacctact cagtaagcct gttggtgaac tgagcaacat ttggacaatt atggcatcat   480
cttacaattt ttcagctatt ggttttcact tgtttagaaa tgtaaaactt tgcaaggact   540
tttataaaag caaatttcag aatagttatt cactaagctt ttttatgcta atgatgtcat   600
gctatcaaaa attagctaga gtaaatggac tgtaatgagg atggtttgta atctagatta   660
tatgttccac atgtaacatc gaaatgaaat ataaaattga gttgttggca tgtggttgtg   720
gtgagcagaa gcagttatta tacattactt ggtaaaattc atattcatat cttgtcagtt   780
tacagtgagc cagagattaa aaataacatt tgtttctgtt ttagtaactg cttaaaaata   840
tccaaaatca ttttattttc tttagcctga cttctagtag tgttttgaat atgtggcctt   900
tcaagcagta atgaaatgca tcaatgcgac ttggcagtgc ctcacaggac atgcttctag   960
gatcattttt aatgattaaa agtcaaattg agttctaaaa aactgaccca aaatatagat   1020
gagccaagta aaaacggaag gaaatctgaa taaaatcttg gttcttggtc ctctgcatgt   1080
atcctccaca tctgttttct ccagatctct tttttcttgc ttgttgatag cacagaggaa   1140
gatcgcagag agtaatgtac tgtatatgtt tcacatcccc cttcctcttt agtgatagtt   1200
tggagagtat actgcagtca ccatggtttt cagtttggag agtacaagga tcagatctgt   1260
attttctaga gccagctttt gtggcattct ggagaggtga ttggagaacc atgagagcag   1320
gcagacatct gggtgagagg gcacgagggg tgagtgacgg cagagccaga cttgctggag   1380
aggcagaaag ggaaggattc aagtagcata accaggaaat agaattgata ggatttggtc   1440
cctgctgacc tgtggaataa gggggaaggc agaggagttg attctagtat ttctaagttg   1500
ggccacttag tgatattggg gtaccaggaa caggcttagt ggacccacag aagtgaccag   1560
acccaggagt ctctctgagc gcccaccctg gcttctctgt gttggcttac cctttcttgg   1620
ttgggggtca tggggtggtc agcttcagtg gtgtggtctg aggtgacagg tgctcaggag   1680
tgaggacagg gagtagacat caccaatgtg aatgtggagg taggcaacaa gagttattct   1740
agaactgaca aatttaatat attttgctga ctgctgagtt ccatttggac aaatacctaa   1800
tgcatttggg gcttaaaacc tagatgacgg gttgaagggt acaacaaacc accgtgatac   1860
atgtatactt atgtaacaaa cctgcacgtt ctgcacattt gtcccagaac ttaaagtaaa   1920
aaaaaaaaaa aaaaaaaaag   1940

<210> 2131
<211> 292
<212> DNA
<213> Homo sapiens

<400> 2131
atttgtaacc aggctgtcat tccatgtttg tttggaagct tagagataac atttatgaac   60
tttgtgacac atagtagttg ctcaataaat gttaactgta gaaacacatt gattagtttc   120
acttcagaaa tagacactta gagttcaaaa ttcccatctg cctagctcct gaggcccact   180
ttcttaccag aatctttcct gataccctct cctgcataaa atggttcctc ttttgagact   240
ttgtagctct tttgtacttc tcttattctg ttacgttact gcaaaaaaaa aa   292

<210> 2132
<211> 689
<212> DNA
<213> Homo sapiens

<400> 2132
```
aatttttctt ttaatgcagt atgacacaga aaacatttgg aggatgttga aaagtaattg      60
tttaaattgg caaagacaca tttcagtaag ggagtaaaca agagggaaac gtgttggggg     120
gaaaggtgtg gggaggaaac tctagaccag aggccctagg acttgaatat acaacttagt     180
cctgttgaaa attcagattc ctgggcctta aagtatgtta aataggtcag gggtggggcc     240
caggagttgt acttttaacg agcaccctcc tgtgattcat ttaacataaa aggtccttgg     300
ctcacacttg gagaaacact gctgtagaaa ctcaaatacc tattttaaaa caaaggtaca     360
ttttaatcat ttagtttaaa atgaaatcat tgcataatac tgatgttaga ggttagaata     420
aacatgtact taagttcttg atattcttgt catttcagtt acatgtcagg gaatgtgatt     480
tgtgttttga cgtattcaaa tccttgtcat attcaaccat attcgtattc aaaatatata     540
atgattttga cccttgattg ttcgaattaa gactgtcatc ttttctgtgt gattaactct     600
tgtgttgata taaatatgcc tttggcttac taatgttcag taagaactaa tgactcttgg     660
gaatgttaat agactctgtg agtcccttt                                       689
```

<210> 2133
<211> 102
<212> DNA
<213> Homo sapiens

<400> 2133
```
ctatgggagg attgttgtta ttattgcttg atttacatgc tctcatttta tacaaagtgt      60
acagcacaat ttctcaaaga gtaattatga tgccaagaaa at                        102
```

<210> 2134
<211> 689
<212> DNA
<213> Homo sapiens

<400> 2134
```
aatttttctt ttaatgcagt atgacacaga aaacatttgg aggatgttga aaagtaattg      60
tttaaattgg caaagacaca tttcagtaag ggagtaaaca agagggaaac gtgttggggg     120
gaaaggtgtg gggaggaaac tctagaccag aggccctagg acttgaatat acaacttagt     180
cctgttgaaa attcagattc ctgggcctta aagtatgtta aataggtcag gggtggggcc     240
caggagttgt acttttaacg agcaccctcc tgtgattcat ttaacataaa aggtccttgg     300
ctcacacttg gagaaacact gctgtagaaa ctcaaatacc tattttaaaa caaaggtaca     360
ttttaatcat ttagtttaaa atgaaatcat tgcacaatac tgatgttaga ggttagaata     420
aacatgtact taagttcttg atattcttgt catttcagtt acatgtcagg gaatgtgatt     480
tgtgttttga cgtattcaaa tccttgtcat attcaaccat attcgtattc aaaatatata     540
atgattttga cccttgattg ttcgaattaa gactgtcatc ttttctgtgt gattaactct     600
tgtgttgata taaatatgcc tttggcttac taatgttcag taagaactaa tgactcttgg     660
gaatgttaat agactctgtg agtcccttt                                       689
```

<210> 2135
<211> 58181
<212> DNA
<213> Homo sapiens

<400> 2135
```
agtttgctgg aacattatca gatggcttag ggaagacgat ggacaatcgg catcagtcag      60
agcgggagta catcaggtac catgcagcca caagtggtga acaccttgta gccggcatcc     120
atggcctggc tcatggtaag tcatgggtga catcaggctc tgctgctgct ggtcctcaga     180
```

2166

```
ggcgcctttg tatcaatctg attgcagcta taaaaaaaga aaggtgggct gggcgcggtg    240
gctcatgctt gtaatcccag cattttggga ggcctaggag agtggatcat gaggtcagga    300
gtttgagacc agcctggcca acacagtgaa accccgcctc tactaagaat acaaaaatta    360
ggccaggcac agtggctcaa tcctgtaatc ccagcatttt gggaggtcga ggcgggtgga    420
tcatttgagg tcaggagttt gagaccagtc tggccaacat ggtggaaccc catctctatc    480
aaaaatacga aaattagaca ggcgtggtgg tacatgcctg tagtcccagc tactcgggag    540
gctgaggcag gagaattgct cgaaccctgg aggcagaggt tgcaatgagc tgagatcgtg    600
ccactgcact ccagcctggc aacagagcaa gactccaatt caaaaaaaaa aaaaaaaaaa    660
aaagaaaag gctgacaaca gaggaaatcc tgtgttggcg tacctgatag ccttccaagc    720
tctcttactt tatcctcctt gcagttgaaa tacgacagcc ggtgagaact cctcattcgc    780
tttctgaatg ttgtgcacat tgcaattcct tttcgttctc tggcttctgt tcccaaagta    840
tcataaggtg taatcaacca gacctgttct tagaattgta gctgctactt ctcttagaat    900
tgtaacctct gccttctcct tactgatcat tccttccaaa gaaattgaaa tgaggaattt    960
gtggccaggt ttgtagccca ggtgtttttt agttttacat aaatgtgcat tcactaaaat   1020
tataaattta tttgcctaag agatgttggt gatggcatga atgcatttgg tctctgactt   1080
tgaattcttt taatgcttta attctgagtc atttgccttt tgttgcattt ttcttaacaa   1140
tttcttagta cggcatccaa ggcccttgga actataaatc cagccaattt tccaaccacc   1200
atccttcagc catgctgcac tttggccaca cacagctatg tactgcttcc caggtgtgct   1260
tccaagtcct tgctcacaca tggtccttct gctctccctc ctctgcctca tttccttgtc   1320
tatcaaaatc ctactcagcc tgtaagtccc aactcaatac attttcccag ctctattgtc   1380
cctgttagag ttaatgacag agcacagtct gggttgtgta tgtcaccagc tgtgtacatc   1440
tgatagattg agaatgtgag gaggggagaa ggaccacttt gcattcacct ttctccttgt   1500
gtacctcaca tgacacctgg cacatagctc atgcatagta aggcttagta aattaaactc   1560
tttgtaccag atccttagga accatccaaa gctatcagag tcatatcaag actgatcagt   1620
attaattatc tgcatttgga agaagaggaa ggaatataga cagtaaaata ttatatttct   1680
atttgtgctt aggacacgtt tagaatagag tttttgttta tcagctttcc taatggtgag   1740
atttggatca aaatgccttt gcttttccta aggctgccca accgtaaagg gagctgtccc   1800
taaggagacg tcaggccaga agtgaaattt ggctgaaagt aatttgttta tggattttaa   1860
aagttgactg ttgggcaatc atttgggggtt aaggtttaat cattctttct cgtaatggta   1920
atgacagtac attggactct tagaagactt ttaaaatgaa tataaaatgc tttgttatgt   1980
gtggtggcct ttatctggcc agcatccttg tgacgtggag agagcatggc tctcctcact   2040
ttctggatga acacacaaat gtgctgagaa aatgcatgat tggttcaaag ttgcaaaatc   2100
acctcccatc aagaatcatt cctataatat gtacagcctc tccaggagcc aatggcttca   2160
tccaaagagg atccactgag ctctgggtta tacgaaggca gtatcctaga gtgagagtct   2220
tcccttagga tgaaaagacc tttagaaggt gataagaacc agaatccact caatcccctt   2280
gatgtaagaa atgggaattg tgctcagttc tctctgcagg ccttgctgga cccaggttca   2340
gtcatgttct gtctctcagg tcccagtctg aattcctgtt ctgtgtgtgc tctgccaaaa   2400
actttgttca aaagtttggg aaagggctgg gtgcagtggc tcaggacagt aagcccagca   2460
ctttggaaga cctagaggga gaatcgcttg agcccaggag tttaaggctg cagcaagcgg   2520
taatcatgcc actgcactcc tgcctgggtg atagacggac accctgtttc taaaaaaaaa   2580
aaagtttgg gaaagagata ttgcctcact ggagcaaatt tacccagaat ccaaaagaaa   2640
tgttgtgaat tgttagtaca ttctcaccca aggagtttcc tttaccaatt tgtctcacta   2700
gagctgaaga gtctagagag cttcctcaca ccccactgtc agagggtaaa catcctgtga   2760
gtgtccctgg cacaggtcct ggagatgctc cctagacggg ctgcctcttc ccttcagtga   2820
ctgtgacctc ttcagcctct gccagcttct ggcctcttct aaggtgtttt cagccattgc   2880
tgtcaacttg caaaatgttt ggaatgcctt tttgacctgg attggtcttt tgaactgact   2940
ccattgaggg tcccagccag cttttcacagc tttttggggt gctcttcatg aaggttttat   3000
ataatcgccg ataccgaatt tcatcaaagc atgcagtagc ttttacctta tttcaagcat   3060
ccagtggggt tggccagtca cccccatagt gttctttgaa aattgcaaat gtataccatc   3120
agctctccat atccacagat tcagccaacc atggatggaa aatatttggg gggaaaaaag   3180
atttcacgaa gtgccagaaa gcaaaatttg aatttgccac acgtttcaaa tactgtattg   3240
actccacaca aatgaagtga tatgtgggca tcgtattagc tacaataaat aatctagagg   3300
tgatttaacg tatacaggac ggtgtgtgta ggttatatgc aaacacctac agcacattat   3360
gtaagggact tgagcatcct aggattttgg tatctgcagg ggatcctgga tcaatcccac   3420
atggatacta aggaacaact acatttagtt atctctctct gccttagata tctttctttt   3480
cttttctttt tttttttttt tttgagacag tctcgctcgg tcgccagact ggagtgcaat   3540
gctgcgatct cggctcactg caacctctgc ctcctgggtt caagcaattc tcctgcctta   3600
gcctcccgag tagctgggac tacaggcacg catcaccacg cccagctaat ttttgtattt   3660
ttagtaaaga tggggtttca ccatgttggc caggatggtc tcgatctctt gacctcgtga   3720
tctgcccgcc gcagcctccc aaagtgctgg gattatgggc gtgagccact cgcccagcc   3780
tctgccttat atttcatagg atgccatcat cttcaaactt tccccgaagg cccaatttttc   3840
```

2167

```
tagtctcctg ttgatttaat cctctatctg tatcctctcc tgatcgtccg taggctgccc   3900
aagctctggg atcgaaaaat tggccactgt taacctctca gcttttctct gatttttttt   3960
tttttttttt tttgaactgg agcacacttt acttctgact aacatgtaac atatatcctc   4020
tgactctgga cttaatgggc aaatctgcag gatcctcttc tgtgagttgg cctgtctgtg   4080
gcctctctgg cacagagatt aatagaatgg ccttaagtta tcattccata atcaaggggt   4140
ttggctttaa atgcttttgc ttttgtcctc gtcaggttac aacagccctt gtctttttca   4200
ctaggtatca ttggtggact gaccagtgtt ataacttcga cagtggaagg tgtgaaaaca   4260
gaaggggtg tcagcggttt catatctggc cttggaaaag ggcttgttgg cactgtaacc   4320
aagccagtgg caggcgccct ggattttgca tcagaaacag cccaggcggt gagagacaca   4380
gccacactca gcggccccag gtcagtggtg tgggaagaat ggcttttgca gtttccagcc   4440
taggtctgct gcttctccta atccatactg atgtgtttaa ttgtgcactt tcttagttat   4500
agggttttta attcaaatac ttgtaactga aatttctgat ctgcctaata taaaaagatg   4560
aaaatgaggt acagaaacct ggcatgaatt ttttcagata aatatatata tagcatattt   4620
tatatatgct atatatttta tatatgtatg tatatatagc atattatata taagtatgta   4680
taactatatt atgttatttt tctccattag agaggtcaga attaggatta aactgttaga   4740
agcttcttct gttcaccaag ccaactggat ccccacatgc ctatgaagaa aactgtcaga   4800
ttgtagtctg gttcttactc ctacacccg tgatatagtt ctagaatccc cactgttgtt   4860
gttcaccatg tgggtctgtt ccttcttaat tttccttccg cttgaaagta tcagccccaa   4920
ccccataaag aaaagtgcca cccccatcc cccagcagg tcagcagttc tgctgtggga   4980
ttgctgtctg gccttgatac cagctgagac tggaaatcag ggacagccca tatggttcca   5040
aaccccacag aacccaactg ctttaacgta gctgtttgct tgaatggcct attttagcct   5100
cccttttcca gagtgactaa ttggggattc ttatcaacaa agggtataat gaatgttaag   5160
ggcccagcca agctagactc gacttaagcc cagaaggatt ttgctgctgc ttggataata   5220
gattttccct gagtgaatta gtacgccctt ttagaatgcc tagggcctgg cccacatcca   5280
caccctatca ctccctcaaa taggatgtga agtgaaattg tccccaattg aagtgaatcc   5340
atttgtctgt caccaggaaa acttactgaa gacacattac tgcagtaggg gaaatgctcc   5400
gattgtggac tggggccatg cagtgtgctg tgccagaatg ccttccatct ggaagcagct   5460
gagtaaactc tgtatggttt actttagtta agttacattc tattctcaga tacaaaacta   5520
aaacaatcct tgagtatatt ttgaagcatt tatgaagttg tggggagggg caggcagtga   5580
ggaggcttcg aaagtatttc cagttagttt ttccatctct gctcgaagcc caagaagtcc   5640
acctccagta tttgttaaga taataagact taatgaagtg taaagctgaa gacgcctaag   5700
agttcccaaa gaagcatgtg tattcttaaa atgtcaaaat agccaaggga ttggttgatt   5760
aaaaagggtt caaggtatat gtgataaatt ttttaaagat gattttgtgc tgtgaagttt   5820
taataatgtt gacgagaaag aaacggcttg aattttatac attgtcagct tgcaagtctt   5880
catgggggtt tttcattctt tttaggagca caagtaatgt agccacagtc actgcagaaa   5940
gaatgtcttt gagagggaca ttcttgtcat ttttattagt tgttcaacat tgccacagaa   6000
gtttgattt ctgtcagcca gtacatagct gccatttatt cattgcctgt cagtaaatag   6060
tgattgaaaa tttcctatga actcagggtt gggaatagca gaaaccaaaa ctgtctctgg   6120
tctcaaagag cttataatca agcagggcag caaacataaa aaattatata aacacttatt   6180
tgctgaaatt gtgacaaatg acatcgagga cacttagagg gtgccgtgag actatgatca   6240
gagaaggtga tggggagaag gagggtggct aacctagtga tcaggggagt tgagacaggc   6300
ttttctagga aagtaatctt tgaggtgaag cctggagtat gaagtaggag ttggccaggt   6360
gaagagaaga gagaatcacc ttccaggtaa aagggaacta ctgtgtgtgc aacagcaaaa   6420
ggaaggaact tatctatgtg ccaggcattg tctttgtgcc tccacgtgtg gaatcccatt   6480
taatcttcat agttgattta caaatgagga caagacagtc cagagaagtc atggagcttg   6540
tccacagcca cacagctggt gggaaatggt agacctagac ttagacccag cctatgtctt   6600
gaccctgtgc ccagcaccac tgcattgcac cctgctgcct gggtctgcga ggaggggct   6660
cattggattt ctcttgtacg tgtttcagag tcagttagtg tcaagatatg gcattccaca   6720
tagtttcttc cctgctgact caagatttac tttactatta cctgcacact gacatgattc   6780
aggtcttgac caacactgca tttttgtctg tctgtttcct ctggcctgcc accttagcct   6840
tatctggacc tcagcagcag agaccatgcc ctcatgaagg cactggggag ccgttcacag   6900
tcagcactgg ccactcctca tctcagccca atgaagtttt acatttccat gtagatgagg   6960
cactcgggat atagaaaagt tgtgcagctt gactcaaagc agacagtaat tgggtagcct   7020
aattgaagtt taactgcaag ttccaacttt gtaggctgca gaaaaaaagg aaaaaaaaaa   7080
acaacaacaa caaagtttaa ctgcaagttt catgagacag cgatctgcct aaccattcac   7140
tcctcctaga agcaaaagct accgtgatca ttgaggcaca gccggtcttc atatatcctc   7200
aaaggagggg gattagcttc cacatccctt ctctattcct ggaggtgcca gtagtgggag   7260
agtcatggca gaagttacca gaggcaagtg gggcagaggc aagtaggta tatgtttgga   7320
tcagtggatc agtgtccttt attgtgcaga aaaagctaaa attacagatt cttctgaagg   7380
gatacatagc agccgtttca ccaatgtccc tcagtccatt tgtccaggtc cagaagtatt   7440
catgaggagc tatgcgttag aagagagcac ttgggctggg catggtggct cacacctgta   7500
```

```
atccagcatt ttgggaggcc aaggtgggag gattgcttga gcccaggagt ttgagaccag    7560
cctgggcaac acaatgcccc catctcttac aaaaaaaaaa acaaacctgg atatggtggc    7620
gggtggtgtg cacctctggt ccttgctact tgggaggctg aggtgggaag attgctgaag    7680
cctggaaggt tgaggctgca gtgagctatg attgtgcccc tgcactccag cctgggcaac    7740
agtgagaccc tgtcaaacaa ggaaagagaa cacttgatct ggaaaacaac aggccagagt    7800
cccagccacc ttacttatta gctttgggcc ctgggtcaag tcaagacatc tatgtaagac    7860
tcagttttag tttttcatc tataaagtgg ggataaattt atctctctgt ttattctgct    7920
tctcaggggt ttgaagccca accagagtta ttttaatgtg gaagctataa agaactataa    7980
aaatgctggg tgatattat ttaaagtcct attaaaggag cgcagagatc cttgcaggtg    8040
gagaaatgtt tcagtgccag tttgttctga tgacactgta tctcttagga acatactggc    8100
tctaacacta tcaccgaggg ataaatcacc ctggtttctt ggaagtgagt tataaccatc    8160
tccaaccatc ccggttgatt gaacaggatc caggggtgtt actcagggtt tttccccact    8220
gtttagacaa cagggactaa caaatgattt gaagggatta gaagtgagat tctgaccgag    8280
ggttgacctg agcccaggga ccaagccagg aatagaaccc aagagtccaa gagttctgcc    8340
tctgagcctg caattggaat gagactttct gcttcctttg taatatttca tccaagtaaa    8400
ggcttagatc ttagcatcta tgttttaaaa gacccaaatt ttaagcagat gataggaaag    8460
taagccataa aactgtgaaa gagtactcct tccagtaatc catctgaaaa gtggccttac    8520
aggaaacatt ggctcttttt tgtgtttatt tgaacatgat tttatttata gggaaccccc    8580
cctccttatg ttctttttaga ttaaaatact tccaagttcc tctccttgtt ggagtgcgct    8640
ggcattccaa gcgacagcca cctaacttc ctctgaaatt tccaggcaac ccaatagttc    8700
tcaggaaggc aggtgggggt ggggagagaa gagggcggag gactgcagag cctttggcct    8760
caacatgagt gttgtggacc aatatccccc actgcatttg ttcactgtac aagtatgtgt    8820
ggtttggaac tgaaataaga aacctttcc aaggcaacgt tctgctggct caggttgcat    8880
cttctggcct acgtgtattg ggccacactt tgtctgttcc caagtaaagt ttatgaaaat    8940
ggcacagatg cagccacact tgaggtgcca ctgaagctat gtgaagagcc tgctaccctt    9000
caaacagacc aggcccaagc aaggtgccaa gccatgtgag agtgcccagt ccactgtgta    9060
aatgtgacgg cctttgatgg tagtgtttga aaagatactt agtagaaagt tgcagagacc    9120
cgggagcagc catttcacaa aagaaggcaa aaataccttt gagaagaaag gaatgtctgc    9180
ctctgcacta tgtatttgct tgtttgtttc tccaaatacc atctgttgca gactggggtg    9240
catgacattt taggtaagta gcagatgaag atttatgaag ctgggccctg aggtttcctc    9300
taaaatattt cttcacctttt taagtcaaga cccaaagtg gggagagaag taggagttgg    9360
cagaacttga aatatttaaa ctaatttagc aaagctcagg agtgttggag cttatctcgt    9420
tatttaagtt agataaggag gaaggggaat ttgaaggata atgatagatc agtgtttaag    9480
aatacagcca tcaggactga taatgttctg gaatcccggg accctcggat tgtgcacgta    9540
gatgtaaatt ccatttgctc tgagaacttt tgaaaagaa agtttttggt tgatttcaca    9600
gaaaagattt atggtgggca tatttgactt tttcagtaaa aatagcccca aaacaccacc    9660
caaaatctgt taagacactt ctcgtgaatg acctcttaga tgtgaaatgg aaatgggttt    9720
tcttaaggaa aggccccttt tgttaacaat gtttgcatgt tacttatgac tctccaggat    9780
aaaaggacta agactctttt gggtcaccag agcctgaatg cagtcaggtt ggacaggtca    9840
gcaaaaagtc tgcaaagagg ccgggtgtgg tggctcacgc ctgtaatccc agcactttgg    9900
gaggccgagg tgggcggatc acgaggtcaa gagatcgaga ccattctggc caacatgtcg    9960
aaaccctgtc tctactaaaa gtacaaaaat tagctgggcg tggtggtgcg cgcctgtact   10020
cccagctact tgggaggctg aggcaggaga attgcttgaa cccgggaggc ggaggttgca   10080
gtgagccgag attgcgccac tgcactccag cctggcgaca gagcgagact ccatctaaaa   10140
aaaaaaaaa aatagtctgc aaagagaact taggaaatgc ttccattaac tttttcatcc   10200
tagctgggta atactgcttt taattactct gctctgagag cagccatttc ttatacttgg   10260
tattacacat aggacatcaa acagaattgg cttgaattga gcctttaggg aacttccaaa   10320
ggtaaagatt gagtaaagat tcaaatgttt attaggatat accagtgttc attttttcc   10380
cactaatatt ccattcaagg caggagacta ggctgatatc ccatgtatct agagtggatc   10440
aagtccaata tttctttcag agttcctgtt ccttaaaact gtaaatgggt tttatatttt   10500
attccatgtt tggcttaata agaaaatatt tttaattgct acctggtaaa attaacattt   10560
cagaaagatc tgatatgtta tcctgtggct cctgcctcat acttatctag gaagttccag   10620
cacgctcctt ccagatgagt ccggtacgct gtagtagcat ccatatagag gcatgtatat   10680
ggtagaggtg aaaagctgga acttgtacct gtttgaccct aaggctctgg ttctaatctt   10740
tgggcatatc tgtcttttgg cttggtgtaa catctgctgc ttgggacagc cattgtgtta   10800
gttaacatgt cagtttcatc acgaaaaagg cattacattt cagtgaaact gaaaaattat   10860
tgctatatcc agctgaaggg aagggactgt caaatatctc ctctgttgtc caaacatggc   10920
acagtagata tagtgacagt cccttttatct tctactcacc cttgcgtata tatttgtgag   10980
gtgagagcca tatattctca cttcctgatc ttgccaaacc aggtccttcc agagaatgct   11040
tgaaggtaga tgggtcattt tctcattcct ccctctacgt gagcaacccc agaagaacac   11100
taagacctgt gttgatgaca ttggatgtct cacttggctc tgaaattaag ctgatgaaat   11160
```

2169

```
tataggatcg gatattttat tttatttttt ttcaagacag agtcttgctc tgtcgcccag 11220
gctggaatgc agtggcacaa cctcggctca ctgcatcctc cacctcccgg gttcaagcag 11280
ttctcctgcc tcagcctcca aagtagctgg gatggcaggc gcacgccacc tcgcccagct 11340
aattcttata tttttagtag agatgggggtt tcaccatgtt ggccaggccg gtctcgaact 11400
cctgacctca tgatctgccg accttggcct ttcaaagtgt tgggattaca ggcgtgagcc 11460
accacaccca gtcaggatca gatattttaa agaagcatct taacagtcct tcatgcctta 11520
taagttaaaa ttcctctcac aggaacgtaa gcagagaaat cttattttct gagacaggct 11580
tcttccctct cgctgaactc taaatactgt attccccttt cactcaaagg ccccagacga 11640
tgccattctc attataacat aacttatgga aagctcagat ctattgttgg aaaaaatgca 11700
aagtgtgtgt gttcatgcac acacgtgttt gagaaaagcc tttccatttc tgaaatccca 11760
agagtcattt ttatgcaaga ttatctgtta ggaaaaaacc cacttttttg gtcatggtac 11820
attataatca tttctagaaa ggagagcgtc taattttgc catttttggc atgcagagat 11880
gactgacttc atagaaacca cactatcctg cttccaaaag aaaaaaaaaa aacctactga 11940
atttacatct gaatcaacat ctcttcaaag tccagtcctt gcatctcaac cagcaggtcc 12000
ttgtgcaaag aaaatgaatg ggaagtgtga tttggggtta ttccatttac tttctgattt 12060
ggggttattc catttaaaaa tgaaataatg ttgccattat acatctgtag tcccttctgt 12120
gttcagtgaa tttgttttta aaactctaac gtgacaccta atattacata cataagataa 12180
gacatttgag attttttggtt tgaacttcaa gaaaaaataa aacggtgtct atttcttttt 12240
gagaaaaaat ttgtattttg tgcattagag aaggttgaag agccatttgt tatttgtgga 12300
actcctctgt aaaggcattg gatttactta tttttagatt ttcatgacta tcccatgcct 12360
catgttttc ccttacagaa tcatccacct ttgcccaaga taaaattgaa atctttaaca 12420
agaggaccca ggtttgagtt cagctcccct gctcccagag agctttagac tgtaagataa 12480
ttctgagata cacacaggac atttggacta gcagggactt aaagactcac tgttgtatta 12540
cagattatgg ctcggaagca ctgagggaag gaaagatagg tgtgggtgtt ataattcacc 12600
cgtggttttc ttgccctgat gtatttatct ggtactcttt tgccagtctc cttctcaaag 12660
acattttctt gctaaatttc ttactaactt gtcaaatgga gggaaaataa gattgaatta 12720
gtaaaacatt cttatcacaa tatactctaa aagaggctgg gcgcggtggc tcacgcctgt 12780
aatcccaaca ctttgggagg ctggggcggg tagatcattt gagctcacaa gctcgagacc 12840
agcctgggca acatagtgaa accctgtctc tataaaaata tacaaaaatt acccgggtat 12900
ggtggcacgc gcctgtggtc ccagctactc cagaggttga ggcaagaaaa tcgcttgagc 12960
ccaggaggtc aaggctgcag tgagctgaga ttgcaccact gcactccagc ctgggtgatg 13020
ggagtgaaac cctgtctcaa agaaaaaaaa aaaaacaaaa aacttttgtt atattgggct 13080
tatataattc aaattaataa tgttacttat ctatatcctt agtggattta ctttaataca 13140
ttgaggaaac cgctttctga ttagcagaga gaatttgtac atatgggttc ttttagaaca 13200
gagggtctca aaatacggtc tagggacccc ctgcggaacc ccagatccat aacctaaaac 13260
ctatttgtat atattcatgt acttatatat gaatttatag atataacaat ttttataata 13320
gtattctcta atgagtatac agtggagttt tccagaagct acacaatgta tgatattgta 13380
acagattgac tgtagaagca gataggtgaa tacagctgtt ttccagttag caagacttaa 13440
gagatttaca aaaatgtgca ggtgccactc tcctcacctt ctgtgactct gcatacatgc 13500
caccagccaa caaacgtacc tggttaattt ttttgacaag ctgctctagt tgaaaataca 13560
gtgattgata atccatcatc ttgctgataa gtagcacata tcggcaatga tgggctaatt 13620
cggactaaac cgtaggagcc gctgtaatgc aatgcttccc tttggcttcc tgccaacagt 13680
tgtcagccct cctggtttgc tcctgacttt tactgggttt ctagaagtaa caattggaaa 13740
tattttatca catatcagaa agacctctta caataattta cctaatttag ttcttcacct 13800
taacctacca tcccaataaa ttttaatttc ggcagggtag taagtgtaga gcagattact 13860
tcaaagtgca gaatcttgtc caaaggctgc ttggttgtgt ttgcactgcc ctgactcttg 13920
caggtactcg agaaggtgta tctgtttcag aattcacttg ccaaaacctc aactttctcc 13980
cctagcaaag ttgctggagt aggataaacc cacagtattt ggataagctc ctttgaactc 14040
cttgtagaaa gcagttttta tgaggcagtt gttctgtgtt aacaccagag acaattccta 14100
gcagatttcc ccaaacatac ttcaaacatc gataatggca ggggtgaccc aaactgtatc 14160
ataaaatccc agggactgca ggagacttca aaggggagac agagcaaaac ctcacttctc 14220
gttatgagga gtatgggtca caggaatcct ggctagaatc catggtaacc tcgcggagta 14280
atgccaggat ggacagaggc cagggctcat cagttcccta gactttacta attgacccca 14340
gcagcacagt tagagtggta ataactggca cctgcccacc tcctgaggtg ttagaggcca 14400
aattaccaca tgtgaagtgc ttttctatcc tttagtgaga agatgcaaac cttgaagtgt 14460
gtttctattt ttgtttgaac tatcgagggc ccagttaatt cagttgagcc aattctgacc 14520
ttgggatatt cagatccatc acttagtatg tacaggcaaa ttgacagtag aaatttattg 14580
agtcttgaac tcctactata tttcaggcat ttaataagta ttaaatactg gaatatttta 14640
aataattgag gacaaactgc tctgaagaat caccaagctg tttggtttgt gtgttaatat 14700
tcttaagcca ctcttacgtg ttcattaaag caagtttccc tatagttttc ttgaagaact 14760
catttttttag tgatttgact tactctttat tcttgaaaac aacaaaattg catttgtgca 14820
```

```
tatggtatgt gttgagggggg gtaattacag gcatttttttc cctcattacc gggtccgtta  14880
cagctccttg aaaacaaata gttatagttt tactaattgt ttataaaatt agctaatgat  14940
cctttgattt tttagttttt ttataccttta gctgtatttta ataaatattt agtatcttct  15000
gtgcaattaa taagaacaat gggggccagg catggtggct caagcctgta atcccaggac  15060
tttgggaggc tgaagtgggc agatcacctg aggccagagt tcaagactag cctggccaac  15120
atgatgaaat cctgtctcca ctaaaaatac agaaatcagc tgggcatagt ggcacacgcc  15180
tgtagtccca gctactcagg aggctgagac atgagaatcg cttgaaccta ggaggcagag  15240
gttgcagtga gccgaaatca tgccactgca ctccagcctg ggtgacagag taagactctg  15300
tctcaaaaaa agaagaagaa cagtgtttaa aaacctgtta tttttacctg aattattttg  15360
ctacgacaaa tttatctttc aaattagatt ttatcaaagt agatatgtat tcactttttt  15420
aagttgaagt ctttctaaat gtctaaaacc aaaacacagt aatctcctgc cctacctttc  15480
cctgattcct gctccctcag aggcaatcac tttcaacact ttgggctgtt tcttcaatgt  15540
ggaggtattt acctttatat ttcataaata aaccaactgc tatttcttga catcatttga  15600
cttcatgttg ttatacatac atgtttcctt tccccatttt tcagtacagt tatatgatcc  15660
tttttgaata acttagtatt ccattttac gttattatga ctgtgtaaat agtattccca  15720
gtgaagcccc ccacccaggt cactttgatg atgtttcctt tttaaatgtt gtgctttgtt  15780
ttttctcct tggagttagt aactgctctt tcagtattgt ctgctttgtt ttctatatgc  15840
acattcgtaa tttattctca aatgcttatt tagtttccac attttttttaa ccctgggcct  15900
agtaactcgt ttttctttaa aaaagaaaaa aaaaattttta tgttcctatt gctaatttat  15960
ccacaaacac tcttctgtat gtgtacaaat gcactgagta atttattggt ttctaattaa  16020
attctccctc ttgatgtcct ctgctcccat ctgactggtt gttgtctagc tattttttgtc  16080
tctaagctat tttttctatag tagtactata gcagtactat tctgagtttc tttcttccat  16140
ttatttgttt tggtctttttt cttttcatgaa tagagacagt ccccagagaa tctggtgatt  16200
cttgactatc tgttctactc ctctttaaag atgaggcact aaaaagccaa ttgggagctc  16260
ttggtttgag gctgagggggg ccttactgtg gaatgatcaa gtggggacct gctgactctg  16320
ggctcctgtt gagaggagca aaactgaatg gggatgagag aggggacctg aagctctaac  16380
tgcttcccat gcagccttttt aaccaatctt cctgttttca cctccatctt ggccctatctg  16440
tttctccttt atgctccagg ccttcagagc tacttgctgc ctccatcttt ctgaaatgca  16500
gtggaggcca ccatcctaat tagctttctg ctttgtggct tccactccct caaggcttac  16560
atttcagcgc cacgtgtcca tctgcttttc agcttctaaa atattgttga caccttctct  16620
ttatccttttt ggatttgtgc catttgtatc cctttgcttt ccctttagag gggtctctgg  16680
actagatctg tcatgtttaa tcagaagtcc tataatttag acttttcact aatttgtgtt  16740
tcctttcttg gtgttctttc ccctttaccc ccaactagtg gctctgaatt agtgtggttt  16800
tatgaaaccc atatccattc agccatggtt ctatgtatta tctcatttag gcatcacagc  16860
agcttttgca cagcatctgc tcaggcagtc tgtggctctt cttttccccga aagattgaga  16920
atacatctgg tgagaagccg ttgccagtcc cagcccctgc tttgagtctg gtattggtct  16980
ttaatctctc attctgtgtg ttgtaaagaa acaggttgtg gaaggctctt gtcagatccc  17040
aggaacatga aagaaatagc acaccctacg gtagtgacat ggccctgtca ccacccctca  17100
ttgaaccata aaagctattc agaggggcca gcagctgggg agcgactgta cttagatcct  17160
gggtgctgat gggtgttttg tagtttccaa gggaagttgc tgaaagtttt cttatcttga  17220
cactccaagg gcaagaggtc tttcttcaaa gagaagcgct tgtttcagaa aaagatgtgg  17280
aaaggacgta aaatcacagg ttcttcccca gttctgaaaa agaaatagga aggggcaacg  17340
tggcagtcag tgtgaaaaga aaccacgcat ttgcaggaag caagaagggg ttccgcagca  17400
ctggctgctt ccggcatctg cagtgcgagg gtaaacaggc ctactgggga gtcggttggc  17460
cctgggtttg agtcattggg ctgctgcttg gctgtgacct ggaacaagtt tttcccctct  17520
taatctctct gagatgagat tcctttgagt catatgccta cctcggtggg tggttacgtg  17580
gattaaatta tatcatgtat ataaagcact cagcctggca tgtggcatgc aggtagggct  17640
caagaaatgg tgtcagtgtg aatattctcc cctgaatgtt ggaatgttgt gtgaaggtga  17700
aacagggatt gtgtccctag ctcttactta aattcaaccc tgtccccgaa ttcttgctga  17760
ccacctgcta gagtgtgagg actaggagtt catgtgcttg gctgggcttt tgtccttccc  17820
attctctttc ttcacacaaa atgaacagtt gaactcaggc caccaaacct ggttgagttg  17880
ctgggtggag ggactctcct gggctctgag cctttgtgtg tgggaaccgc actggaaaag  17940
gtgtgcagag gccacgaact tgctctgaac ccacttgtga agagcaggtg accccaaact  18000
attgttagtg tctgctgtaa atgatatgcc tctgggttcg agcagagttc agccaaaagc  18060
cccacatgac atggaaatct gtcctggagc caggtttgtc gggtaaaagt tatgtagcaa  18120
atgtctccaa acattggcat ctgttgtctg ccgagactag gacaaccgag aatgatggag  18180
tgcttaagga aattaggatg gggcatgcga ccctgtaaca gctgataaac tgtttcaggc  18240
caccgtggct catccagctc ttttgataaa cagctttaaa agcattacgt ggtttggaaa  18300
gcattcttca aaaatggtta tattttccag acgcatgaca gtccactgtt cagtattatt  18360
taagggtttt aaattgtaga atcagattcc tttttcagtgg ggctcttgga actgtcgagg  18420
gctgatctgt ctgactccca ccaggacaat ctcacaacaa tattattatg taggtcggggg  18480
```

2171

```
tcccctaggt ctgttaaaaa aaaaaaagtt cagggctaag cgtttaagag gaaaaactat 18540
ttctttcatt tctagctaag tctgatgggc cctttcaaac actgctttca tcatgcacct 18600
tttatttcac gatttctgca taatgaaaat acaagatcga taactgtgga ttatcgtaat 18660
gccttgagcc tttgaaaatg aacattttct agattataaa tgttcccttt gtaattcatt 18720
tcaaacttca tcctcccatt tgtcctaatt cccgaaattt aactgttgcc ttttgagcct 18780
cctaggaaat tctgggtatc ctttaggcaa gggaggtagc tcttggggga atagcattca 18840
ggccacaggc aattcatttg cgacttgggc tcttcttaga acatatgata agtacaacgc 18900
actgtagtga cagatttttt aaaaaccta ttaaagccca atatactaat gcagattttt 18960
ttttttttaag ttttagagag attcatggga ttttattctt tttcccaaag gcagtggtgg 19020
agctgacaga gtagcatgga gcctcgtcct gatgtattgt gcggaagtgg cagcagttca 19080
cattcattca gtttgtcagc ataggatcag ttccttcttg actcaactct ctgtgatcaa 19140
aataagctat tggatgttcc ctttgggtac tggaagcagc ttggcccctt ggcaagagaa 19200
caggattgca aatcacaaga gcagagccct gactccagct ctgatgctac tgtgctttgt 19260
gaccttgtgc agacagcttt atatccccat ctcaggtcat tctcccccat acaaaggggg 19320
agagggtcat ccttgccctg gtcatgtctg catggctgag gtgaataact agttgtgtaa 19380
cttcctggag gagtggcaca gaggaagctc ccttcctagg gctggctctg ccatcaggga 19440
ggaagctgga tattagaatg aagaaaaagc ccatgcagaa tatatggcag cccgataatg 19500
gattctaaaa ataaaaaagc actaggttaa tctgcagctg tagtgtacct aaagtattct 19560
ttggcaggtt gtggccctag cctaatcccc agctggactt agcaccattt aagtgagtta 19620
catctcatcc ccgcaaggga ttgagtctgt agccaatttg gccttgtcac cacttcagcc 19680
ctccctctga tttcaccttt gggaaaacta caaagtggcc ccagacatac atagcaggct 19740
tgatcacatg ggtggagtct gtcaggacag catacatcaa ataaaatgtc cagggaacct 19800
gttgtaaata aaccacttcc cgcatgctca gtcatcgtgg aggtacttga atgtttagtt 19860
tcttttagct gatggccaag aaatcaatgt ttaaaaaaaa aaaaacaaaa aacaaaaaaa 19920
caccttgaca gaggcatttt gtacaagaat ggtgtgtggg tgtgaaaaag taaattccaa 19980
aacatatttc cttttagttc ccaaacccat attagatgag tacttcttag ccttggccac 20040
agtgctagag taaatagcag tgtcacatag ctcgtggaac aggcaaacca cagaatgtac 20100
aagagagaag cgtgcacacc agtgagtctg ctatggcagc tctctttgtc ctggtttcta 20160
catctcattt gtaagcaact tgtgttcctg cattttcaga gtttggccag tttatttact 20220
tagaattgca tgttcctgga atattgtcat aaaagtgatc ctgagataga aaaagtcaac 20280
aggaagcagg ggcattgagt ttataagttc tcagtctgtc ttggcccata ttaaagtctc 20340
attctcaggg gtaggtccag ctttccaaat tttaatatat cagagactcc tgatgcatct 20400
gggctcatga tgggccaaag taggccttca ggagtcctcg tgttacacac tcaacgccta 20460
atggagactg gattcattta cgtgtattaa tgtaacctgc gtgatcatgt gagtgcaagt 20520
gctttgtaga ttgtcctggg agatgtggca tattatgact aaagacttaa ttgaaccctg 20580
aacatgtata tgaataactg gagacagatt gactggatta cacattttc ttgaaaattt 20640
cctaaattta gcctacctct ttgttgcctt ttatttccca gcttaagtgg ttctctataa 20700
cactatattt taaacaaacc agaacaaata gtatacaaaa gcatagacaa gagggatata 20760
acaagagatg gttttctgtg atccgtggca cctcctctct accctgcctc caccaccaaa 20820
aggggcttta aattaagatt cggaatggca aattcactta ccagctccaa acacagtaga 20880
caaggaaacc ttgtgaggaa aatccgagag tatatttaca gtttctgttc agaaatacat 20940
agcttaactt cgaaggagga agcgtgactt ttcacctgca gatagaacta gggtctgatt 21000
tgaaacagac cactggcttc actgaacccc atcaaagaag tctgcttctg cccggaattg 21060
gaaagtgcca gtgggcatgt agttgctagt atgggatttc tgtttttatt tttaacaagc 21120
ttgggcccaa ctcttagtat caagatgggt gaagacaaaa ctgaccagaa aaacacgtat 21180
caagtcagca gtggctcacc cctcagaggc cattttccc acctgctcct cttatacctt 21240
tggtttgttt ttggttttgg atttttctc tatgttcctc ctactctttc tttctctatt 21300
ttgcttgggc cttcgttaga agagttctag taatcatttc agacttccaa aattcaaccc 21360
agtagcctca ttttacaggt ggacccacta atacacaaca gctcgatgtg acaaaccata 21420
gactcacagt taatcacttg gagagcctgg attcacctcc gcgatgacct gcctttccag 21480
ccctccagtg gcgtcctctg tagtgagttg taaatgtgcc actctagaac attccaggaa 21540
agccctcctc ttgggctaaa ctctaaaact aaaatgaagt cctgcccatg tgagctgctt 21600
gtttaacact ttggatgcta atcagagcat taatgagaac acatggatag attcggcagg 21660
tctaatgctt gggaccttct cctatttgat tccataagac taaatcccct ataaacactt 21720
ccctcctgtg cacacacaca tgcattcaca tacagcactc acgtatccct cccttatagc 21780
caaagaccga aaaataaatt tttttttct acattaaaaa taagaccagc tagtaaccag 21840
ggttggcatt cccatctcct gtggaacctg gaaggactag cagatagcta tagagatctg 21900
tctcctttt agtgtggttg tattaagggc aatcttgcct cccatggcac cccagaaaat 21960
ccaggagttc aagtgggggt gcactgtagg aggactcagc agctgtttta tggaaggttc 22020
gtcagggatc agactgaaga ttttgctttt gtgagaacaa agtgaaatgt gacattcagg 22080
agcagctcgg ggcctatata tagggcccca gggcctgctg ggatggggtt ttacacttgg 22140
```

2172

```
gctgtccttt tgcccttccc ctgaactctt ttcacttcag tcatgagcaa acagtcagtg  22200
cctgaactaa caaccctgta gtcctccgaa gcacggctgg cttacagtac cgaacaaagg  22260
gagggagtgc cgcgtgggcc ggcccaggcc gaggaatgcg gcttcagggt tctgctccat  22320
aaatttaacc agcacgacga aaaggagata atatgagcct tcgtgatgat ctgaaagggg  22380
gaggttctgt gtcccattga ttgcggtctg gcccaatgcc aggcccaagc ctgaccgaca  22440
gttgaaccat atcattaagg cgtgtaatac agctcgagtc ttgtactgcc gccaatgagt  22500
gcatatccac agggcaaaag tttataaaga gtcgaggctg tcctgtttaa ccctctcaca  22560
ctgcatgtaa tagaaccagc tgccattcag aacttgccca tctgaggtca taaaggaaag  22620
cctgcacgtt tcttttcttc aaacagcttt tcaggactgg ggagaggaag aaacgctgtc  22680
tagagaggggt caaggcacgg tgatgtttct ctctggagaa gcaaagcagt ctgcctccct  22740
ccccccggcc agaaacggga caccttagtg ctttcttcag agtagctctc tgtttgtggt  22800
ataatgttgc tggaggaaac agggctgaca ccacaggaaa cctgcctgtc tccaaggagg  22860
ccgcatcggt ggcagaggtg ggtcagatgc cggccgtgga gtgctcttgt caagcttggg  22920
atgatgccgt tttccttccc catcacctcg aaagctgtta atagccttgc tttctggcct  22980
tccacagcta cgcccaggtg ctaaaacaga gcaggtggaa ggccgcccca cggagtggcc  23040
tgtgagccca gagttctcac tgtccgaggc cggtggcccc atgggaactc tgtccattca  23100
atagggaggg catgtagaaa taggcacatt gtcacagcaa ggcctggagt ggcctgggtt  23160
cttacagtgg gcactgcatt gaggaaatgg gcagacaaac aaggatttag cataagtata  23220
gtcagaaaga aagggctgcc tgtgttcaaa ggacaaaagg aagaaagtgg gcgaaggggt  23280
agtttagtcc tgtccatcag ccagtcacgt tctttggcca aactcgggac ctgcctgtgc  23340
tttgtccatg gtgtccagga agaaatctgt gtctgtcact tccagattgc tgcttgtctg  23400
caatggacaa tgcctcttag gcagacacct gctcgggatg acagtgctgc agaaattgat  23460
ccaaaacatt gactagcttg catggtatcg ctgtcattag tattcagtct tcacaaccac  23520
cctatgaggt gggtgctata ctttccccat tgtacagatg ggaaagttga ggcacacagg  23580
ggatacgtaa cttgtctaag atctcagagg tagtaaggaa gggtaccaga atgtggaccc  23640
tggccaactg aacacagagt acatgctcct aatctctgtg ctgcttctgg gccatctctc  23700
ggtccctcac atcgaaagac ctcatgattt caatccaaag catctgacca agtgttaggt  23760
ctacttcctt tcgattcttg gatatgaagg gtaggagctt aatatctgcc tatagcccag  23820
aagatttgtg caaagaccct ggttcacttg gagaggaggt actataaaat ttggaccccca  23880
caatgcgaat gaagggtatg tattgaattc cctcagccca ccagcttaac acagagacag  23940
tgtgagggat atactatagc tgggaagctt ggaagggctc atgttcaagg gcctctttgg  24000
gccaaacagc agtgggcctg agcatggaga gaccctggcc ttttagtgcc agtgcctaga  24060
gaagcaggtc actaagcttt gtgcccagga gctgtgctgt ccctggtcca tccctgtgta  24120
ccccattcca ctcctgaaat aatgaactac tgcagccttc caagttcaca gtgtgccagt  24180
ttgtcacaga atagcagtga cacttctctg ctgcaaccca tctttgctct gccatgctgc  24240
caagaccatc ttcaccaggc ggtaacctgg gaactccagc tggtacacag tacaagaagc  24300
ctccgcagta gactgtccca ggtgcatgtg ctcagtatgt catagccatc tcctttttgga  24360
ggccagggag agcttctgtt tgggtgccac ggatcctgga cagaagcttt ctagaggtag  24420
gagaagagac taaatggctg gccaacccag agattgttgg attgtgttat gattccatgg  24480
tcaaagtgct ttaaaaacct agaaattggc tctggtagtg agtcccagga tggagctaac  24540
ttacgatctg gactccatta catgattgct aatcctgaag ttcagcaaac gttggtactg  24600
gctgactttt aatggagtac ctgtttgagg gttctcctca tcatgtattt aaggttaaat  24660
tgtataaagg aattctgctg ctcttttgaa attttctggt tctgtttaac catacctaaa  24720
aatgccatga ggtagccaga tgattgacta actgggattt atggaaattc ttatctgcaa  24780
aaatctcaag acaaagaggg cactaactag aaggttccca gtgctttatg taacatgcag  24840
aaggaagtct ggtctcagct tcttggatct gagcaatcct ttggaaaggg agcaatgaag  24900
agcagtaact gaagactcat ttcctgcctt ctgtgtgact cactctcctt tgtcaacttc  24960
aagtttgccc taggcctgct tgcttctctc caccccaagg aacttggtct ttggaagaca  25020
caggcacctg ccctctctgt ctgccttttg cccccaggtc cagagggaga aacaaaccct  25080
cagttggagg aaagtctaga gcacaggctt tgtgttgctc agagaagcat gacaggaagt  25140
ggtgctgttg cctctgcatt ggccgactcc tggctgcacc tgcttttccc agaggcacgg  25200
ggaggcccag gcaggggccc agggcctgct gctgatcagt ttgtcctgct tgcaagtctg  25260
catccagta cccaacgggg ccaagtagaa aaggcacata gtgtagtgtg agccgtagct  25320
gtcaccagat gggtctttcc cctccgtgcc caaccccttc cctgacctga aagggcctag  25380
cctctttccc cactggcttc caccaagttc taacacattt tatatatatc gatttccagg  25440
cttgtagagg caagacctac agtccaggag ttcaaatgga ttcagtgttg ttggttcttg  25500
tttcctagaa ggacaagtgc tctgaaggtt tggtgtcaac tctgacccaa ggggtgtatc  25560
tgattttat gaaggcacag aaatgcacct gaggtgaccc caagtccttc tctttattt  25620
tttgatttcc caccacctgg atcattaatt ctgctttcaa gggggatggg gaaaggagaa  25680
catttcaaag caaagttgat ttggtctctg aaccagcttg tcttctaggc tgtagttcac  25740
cctgatgaga atcagaaagg acagtctgta aaccccttca ctctagtgac tctgcagctg  25800
```

2173

```
gggagcctca aaaccagttc cagatgttct ctctccctat attggccaga agggaatttc 25860
gggcaagcaa ggaggcagag agcttttgcc cattcattga gtacccctgt ctgcaaactg 25920
tgtcttgctt catggcactt tagggagagt gctgagcacc tgggtccatt tgggaccagc 25980
cagcccttcc tgttcctcgg ttagaggcat gctgctccaa gctggctggt tactgcaagc 26040
aagagaagcc cgccttcctg ctgttcaggg tcagaaagca agaccgtgct ggagaagtaa 26100
gtcaggcagg ctaggaagga gacctgcaga tgacccttgg gttaacaaag caactttcac 26160
ggccctgttc accaccagct aggatagtac agggctttgc ctcccaatct tgggagacga 26220
ggcatagata gtaatggtca actgatggcc ctttactctt gagaaactcc acccagcctc 26280
cccttatcca gaagaaagcc attcctgact aagcctggcc attctgacgc cttctttctt 26340
agtctgcacc cagcctgtgc tgtatgcggt atatgatggt agaaatttgc actcttcatg 26400
ctttgatttt aaatgcatat tagacatttt ggcatttgtg cctgaatgct ctctgtatca 26460
tcttttttaa aacatagttt gattatgtaa gttaaagaat gtacaaatgt aaacttctga 26520
aaatacatac aatatatgat ttcttagagt gtatggacac tgctccagag gccttgcatg 26580
aattatctct ttaatcctta caaaacgaat gtgatgggta ctattattcc cacttcaaag 26640
aagaaaataa aaaggactta ttctccctgg gcattgacaa gcaaagagat taataatggt 26700
aaccccacca gacatctcta tgggtatata tgtgtatata cactagtata catatatgta 26760
tacatagtat acatatatgt atacatagta tacatatata tatactagta tatatatatg 26820
atttgacatg aatgggagta catatgttga tgtctaatct ttttcactcc acaatggtgc 26880
tagaacgtct ttccattcca aaaatcattt ttaacattta cataatatta taatacaaat 26940
attccataag ctacttaact agttccccat tgatggatgt ttttaatttg ttgctgttgt 27000
aagcatcctc tacatatatc ccatcttact tgaataattc tctccttagg ctaaagtcct 27060
aaaactatga ttgctggatt taagggtgtg tatattttct gctttgaaac acattgtgaa 27120
ttgccttcta gggagttgaa acaatttgta ctcccaccca cagtgtgtga gaggactgac 27180
tcctccagcc gtgtaccagc tctggctatt cattcattca gaattcagtc aagaattaca 27240
tgaagtagct gcagtgtgcc agatactgta ctcagaacca ggcattgtta ctctttaag 27300
tctttgccaa tctgaaagag tgagtatctg tgttactact tgcatttctt tgagaattag 27360
aagcgttgaa acatctttc gtgtttcagt tggccatttg gattttctt cttttgtgaa 27420
ttacattgcg tattctttgc ttcaatcttt ttaaacccgt taaggtcaga atttgtcttt 27480
ttagtgtgtg gttttttttt aattcttatc tagtgttggt ctaacccttc caacagttgt 27540
catttagcca gtttgtcatc catgtaagta catatctttc ttccagatat taacaaagtt 27600
tatatcagtc tcttggtgaa ttccgttcct gtaagttaga atctgcatca tgactttata 27660
aaagaccatc actgtgccta cagttcttta ggaatcgctt tggcattaag aatgaggctt 27720
cagccaggca cggtggctca cgcctgtaat cccagcactt gggaggccg aggtgggcgg 27780
atcacgaggt caggagttcg agaccagcct gaccaacatg gtgaaacccc gtctctacta 27840
aaaatacaaa aattacctgg gtgtggtggc gcaccctgt aatcccagct actcaggagg 27900
ctgaggcagg agaatcactt gaacccggga tgtggaggtt gcagtgagcc gagatggtgc 27960
cactgcactc cagctgggca acagagtggg actccctctc aaaaaaaaaa aaataaaaat 28020
aagaatgagg cttcagccag atgttttggg attatatgtg gcgtggccta ttacatggtt 28080
tttatttttg tttcctccta tttcttagta tttctttcca ccagttcctg ttgtaaaacg 28140
tgaccagttg gtactgatgc tgtacatcct tgtattagta aaaatcctgc tgtgcctgga 28200
ggcagggacc tgcttgggcc aggccttccc aggaagcccg tcctaccctc tgtagcatat 28260
agtgccggac caccccagcg ctcccactta cctccttcac tctttcattg ttgatacatg 28320
ggctaggttt cctacagagt cacttcaagg atgtagatct tatcctccca attggattgt 28380
gagtttgttg ttattgcctt ttttggtatt cctcaaggat gttcagaata cctcacatag 28440
tgatggactc agagtaccta ttaaagagat tttcattaaa atcacaccat tcagtaagtt 28500
gaccaagtac atcaagagag tcagaaagac ccaagatcta gtttggcttt gccaggcata 28560
gcttcctcat ccataaaatg aaatactagt aagatacttc cttatgtgaa tcttgggagg 28620
ctcggagtgt ccagtacaca ttcagcactc agtcagtgca gctgtagaga catagcgtgg 28680
accttggtgg cccagcagtc tcaatcctgg tttcttctga cctaagattg gtgggaaagt 28740
acagataaaa gctggttgag gaggtgttga tagcacagag tgtttttacg gagtgtcctc 28800
ggagggttac atgctccttt ttgttgaatc cgaatctttt tttttttcta atatggagcc 28860
tcataatcat tcaaggactc agtgtgatgc cacaggtttc aaacttgcca gttcgtctct 28920
tatgttctgc caattttta aaagtgggaa tatgagtgca tgtgcacgtg tacacacacg 28980
tgtgtgtgtg tgtgtctttg tgtatgtaaa atgcttggga taaaaaaaga tggatcaaat 29040
tttgtctggc atggcatagc aactctcacc tctagtatcc tctaaacatt taaccaaatg 29100
gactttaact ggtttacttc aattctattt ttattttcgt agtcatttaa atgtatgggg 29160
agccaactct ttcaaatgag acattttgtc attaaaacat gttatttagt ttaaccgcat 29220
gggcccggct tcagcaacat tgaggactgt gaagagggtt ctgagcggct gttctctcct 29280
gacctgaccg cagcagtgac ccaccagctt gcaatgcacg caaactgaaa caggcaggat 29340
ggccagccca gggttgtctg cacggtggtc ttggcatctg taccttaggt tgccagctcc 29400
tggccctcct tgcctgcatt tggtggccct tggccctgcc gtgtcatatg gcacaagagc 29460
```

2174

```
ccttctggcc cgcatcaccc tgtgtactga ttaggcagga atcagcaaat ccgttgagtg  29520
catgtttaat gtgacacaga tgtgggacat actacagatc tttctgcttt acaaattttc  29580
agctttttgc atttcatcag tgttgcttat tatttacaga atgtaacttg agacatcaga  29640
acagattgta atttttaaaa aggttgttgg gggggtgggc ccgcagggga tctgggagaa  29700
aaaatccagt agtgtggaat gttgtttgct gtccagacca aacaaaccag tttgccaagg  29760
gttgatggac tatgacaatc agtccaattc atgttaacac tgggggcact taattaaaag  29820
gcagcttgac ctccttatca ccaaataaag aataatcttt tgttaccagg ttgaccgtcg  29880
cagcaccagg cagaaatgta cccccttgtag aggcactgaa gggtaccacc aagctgccag  29940
ctcgtgtcct gcctccttcc tgtccacaga gaaaggcacc attgaaccca gtccccactc  30000
agacatgtgg atattcttgc ctcatgcctg ctgtggcttt acacccaggc gctatggcaa  30060
gaggcggaaa aaagaaatct cttcctttgc ccaaaaatcc aagatactct tgagggcatt  30120
ggaatgatga gccaggccag tttgacacaa gttcaaggag aaggtaccat ctcttgcttc  30180
tagaggggca catctggcta gaggtggccc tggcttctga gaaagctcag ccataggtta  30240
catttaaggg caaacaatga aaagcaccag ctggtcggga ggaagatgag gaggagtggg  30300
tgattggttg cttcttttcct gtgtctagtt ctaaagaact taaaacttgg gtccaaaata  30360
atgagagccg tgttgtaaaa atcatttgaa gagagttctc ctggggaatg tgagctagtg  30420
ccgtgacctg atcccttggt cagatggttc tgagctgttt aagtgctgag tgtcaactgt  30480
ctacagggag ccaggcccct gaggagcggc cagggttcca agccccactg ttctttttcct  30540
tcctggaaaa gtgcagacgg tgcacgttcc ccggaggcca ccaggcagct ctccagttgc  30600
cctctgggtg aacgtgaccc aggtcggtaa ctttctagtg tccccccccac gttggaatga  30660
tcagcattcc tgtactccag gggttcttga gttcttgagt tgttaccaac gccctgcctt  30720
tctctggctc agattcagag gaggagttcc actgcggact gccgcttctt caccctctgg  30780
gcttcggaag cagcacctct ggctcccctg cacccagtcc tcagtcttgt ggccctggtc  30840
tgcccctta tcacatgtct tgagcaccct ctcagcacac agcaccgttc tgagcgctga  30900
ggtgcgacca tgcatagaag agacaagaat ccctggttcc gcatggcttc cctcaacacc  30960
tacgtttcca ggccatggct tgggttcaga agaatccccc tccctggaag agatgagtga  31020
ctggaaggag agcatgtcac tggctcccct gagaccctcc caagagcctc agtttctccc  31080
tctaccacct gaagtctaac tgcagggcct gaaacagatt ctctttaaaa acccatgagt  31140
gtggtgactg cataggtttt cattctcctg agttcttaat ttccgtgtcc ctagcacttt  31200
ttgaagcatc tgctcctgtt gccccttttct tttcctcctc accctcctcc atagtctctg  31260
tttgatagta gaaggagatt taaaacctcc aggctgagtg aacaggcggt cttgaaaaag  31320
caaacaaatc gggtcaggca cggtggctca cgcctgtaat ccccagcact ttgggaggcc  31380
gaggtgggcg gatcacaagg tcaggagttc gagaccagcc tggccaatat ggtgaaaccc  31440
cgtctctact aaaaatacaa aaaattagc cgggcatggt gccgtatacc tgtaatccca  31500
gctacttggg aggctgaggc aggagaattg cttgaaccca ggaggtggag gttgcagtga  31560
gccgagatca caccactaca ctgcagcctg ggcgacagag cgagattcca tctcaaaaaa  31620
aaaaaaaaag caaacaaatc acaaagcagg tcccctctgg gggctggagc atcctcatat  31680
ctgcttggct ttggtcactg aaagaggccc tggggggggg ggcttcaggg cttcccaggg  31740
gagaggtgac agttaggaca cacgcctccc ccacttcagt caaggcagct tcattgtcag  31800
cggttgtacg tactaagatt gtgttacaaa cttcatttgc agaaagtgtt ttacccctga  31860
aattttttt tgaaagcgcc tgctgtgagt tttattaatg gcactttct aaaacttcat  31920
taatttcaat tatgagaatt tgatatctgg tgtaattcat tgagctgcta gtttgatttg  31980
ctctagctcg ttttaaaaag ctctgtcagg caacaggata tggatgggag tgggtcaggt  32040
gagtgaaaac gttttaagca ctcctttctt cagaaaacac ctctgtaccc acatggggtg  32100
tgctcctcag gagtcattca gacaggtcca ggagaacttg tcccccaggg tgctccgtcc  32160
agatacaatt ttaaatactg cactttcgca ttttggtatt ttcaatggac ttgacaccca  32220
ataattctga ataaaggtag gaaagaggga gatgattaac ttttacaagt acctactatg  32280
tgccaggcac tatgctacac attcttcata ttttatctca acattatcaa ccaagtaggt  32340
attaagttct cacctattga tgaggaatct gaggctaaga acaatctagt aacttcttca  32400
gtgtcaccca gctaataagt gactgggatt tcagcctgtg tttgtctttt tccagtctat  32460
gtttgttcct ttatactact ttgttcttaa atttcatctc ttctcttaaa agaggtcaac  32520
tttgggagaa ggtagataat atataaacat tgaaagaaaa agattatata atcatttgcc  32580
agaaataaat ctgaaaatat tgggctggac acggtggccc acacctgcaa tcccagcact  32640
ttcagaggct aaggcaggaa aatcatttga accaaaaaaa aaaaaaaaa aaaaagtagt  32700
gaaaatgtat ggtttattaa tgtaatcagc ttgttattat tagcatgcgt acttaatagc  32760
cacaaaataa agcttaccag agatggtgta tttcggtcct tgtgaaatat cttgggattg  32820
gcattagagg tgacaggtta gcaaggaatt tgataatggc ttgagagatt ccaataagca  32880
ctacactctc tgactcagaa tgttctactt agaacacaaa gaaagcttac aattgtaaag  32940
cgccttgttc ttccatgatg ttgaaagttg caaccacttt ataggttgt ctactatttt  33000
gtaaaagcaa agcaaaccca gaatgcatgc aaaaattatg gcctttaaag aaatccaagc  33060
cttttaggct ccattcttac tataacatga tctattttct tggaattctt tataaagtaa  33120
```

2175

```
ctctgcccct ccccacccag ccattaacag gtagtctcgc ccctgaggca gttgactaag  33180
aaaaaaaatc tggagtattt ttgtcttaga gtttaaatcc caataggtgt atctgttggc  33240
attagtccta ccagctgtca cagttgcagt gtcatggggt ccccaaaaca tgtgttaaat  33300
tatgggaagc cttgacccct ataaacaagt caggtgtgaa tcccactgat gggagaaaac  33360
ccagcccagg aaatgtcatc cctgctgctg gatgtcaaat tgctaaaaac ttaacaatat  33420
caatataatt tctaatgatt tcttgaatca acatctttct tacattttca atggcaatag  33480
tacaacatgg gattttatgt gtgttatgca tgtatgactt gagaactcta gggagaggta  33540
agtagaatgt taacaagaaa gcaaagggga aaggaaaata cttcagtttg aagcagtgag  33600
cctccccagt aggaaaacta agtacaagag gttggatgtt acaccctagc ccatcttaga  33660
tcccagacac ctcaactagg gttcctcgtg tgcacccatg gcactctaaa taatacacta  33720
ataaaaagaa taggtagcat tttatcgagt gcctattatg tgctagactc tgttctaagc  33780
actgtacatg tattgactta tctactcctc acaacaaccc atcattaccc ccactttata  33840
gatgagaaaa ccatcgctcc aagaagtcac ataatttgcc tgtggttaca gttcgtaagt  33900
ggtggagctg ggattcaaac ccactgggca ggctggctcc agagccgatc ctctcagcca  33960
ttatattatg ctgcctactc tagtgctccc tgtctctcct actgcttccc tgctgtgttc  34020
ttgttgccat ttctgttcat ctcctccact gaattgctgt aagctccctg gatacttaat  34080
tcatcccagt cttcttcagg acctagtgct ggcctctgca tatgatagtt tgggaaaggt  34140
tggttgaata ggggactgga ggaggcaggc acaaaccatt tgcagggctc taagtaggct  34200
cgtttttctg gctaccctag tttggatcct tagtcagtaa ttccatttaa gaaccaatct  34260
ctactagcat agggtttctt tctgcccaac ctattttcca tgtgtccaaa atccaaattg  34320
tcccaaccta cggattgaat actatctttg agtgggttct agaaggtgta tttctctttc  34380
tcttgaaacc ttggggaaga atttctcatg taaacagagg caaactttag aaattttcat  34440
cctctaatag agtcttctct gattacagtt tgcactgaaa ggagtaaaat ctgtttatgg  34500
agaagaaatg cttttccact tcgtctttag aagtagatgc atgtggccaa gaggagggag  34560
ctacacgtca gaggtagttg cagcctatgg catgatggga gctacaggtc cgagatagat  34620
gcagcccaca gcatggtggg agctacagat ctgagataga tgcagcccat ggcatggtgg  34680
gagctacagg tctgagatag atgcagccca cggcctggtg ggagctacag gtccaagata  34740
gatgaagccc acggcatggt gggagctaca ggtccgagat agatgcagcc cacggcatgg  34800
tgggagctac aggtccaaga cagatgcagc ccatggcatg gtgggagcta caggtccaag  34860
acagatgcag cccacggcat ggtgggcttc tgggcttgc agacattgta ctgctgtgga  34920
taccagaggg ttttcacca attcgtctac tctactgcag acagtactat ttagacagac  34980
tgcggggttt ctcttagaga aatgacaaat gtttgattag gccatttggt caagaaccct  35040
ggtatcttgt agctgttatc agtgaccagt attggaagag gtagtctgga ttgaccttcg  35100
ttctcagtct aattgtgcac actcgagcac agtatatatc agtaagatac ttgattaaaa  35160
caaaagccct ggacacatac ataaagtgaa tgcaagcaca acccatcaca caacccttaa  35220
ggaagatggc agccatcagt tgaataaaca ttctatgatg ctaacgtcac atgtgtgaca  35280
tacactttct actcacttac tgattgtttt tgaacatcac ttggctgata gacattggcc  35340
atgacagact tctcaaccaa attaagctgt gtaggggtat gtgtatgtgt gcacagcatc  35400
tgtcttaact aacagaccta tgacatagtt actcatcgta taagctacga ataattaatg  35460
cctggctaaa tgttgacttt caggctgaaa ggcaagatca accaagtgga attggctgga  35520
tctccctgtg tcaccttgtt tggatttact gttgattttt tttttaaaag acatgagttg  35580
ttactactct gatcattggt tttgggcctc cggtgtatat cagatagcaa tggccagatg  35640
caggcacact ctgtattgat tgccctcact ggaaggatat ctgcagtgta tcagccactg  35700
tatccacagc cccttccctg ggggaagagt cctccatgct gtacagcaga ctccctgaca  35760
ttttcataga gttcaaagct caagttggtt tggtgctgac attctggatt agctggttga  35820
ctggaaggac tgcttctttc tatacactgt gaaatttgta aaccgcagca gctgagggct  35880
taacatggcc gacaagctcc agctggcagc aattaaatat accgcagacc tttggccaaa  35940
caaaggtttg tggaggcaga gttgctgcat gtgcgctgaa cagactccta ggttgagtgt  36000
tggttcataa gagatgctgt cgactaagga gaggtgagtg ggtggatttt ggccacctct  36060
tgttcggtga tccattgtcc ccagaattat tgtatcaaga ccctgcccaa gtagcagcaa  36120
aggtggtcag aggaaaggaa caaagccacc agggaggccg caggcctaac agtggtgggc  36180
ctgagtcgtt tagacgttga tctgctgctg tagcaccaat ggcaggatct gcagctactc  36240
cactttttta aatttattaa tttatgtatt tattgggtac cactatgctg taggctatag  36300
gctgaaagga gaagatggga atgaaaaaac aataagaaga catttaatat ccattcaagc  36360
agcaaagatt caagagtcta gaccagtgct atccaaaata caatttaaat ttaaaattca  36420
gtcctttagt tacactggcc acatttcaca tgctcagtag ccacacgtgg tcagtagcta  36480
tgtattggac agtgctgtcc tagacaatac caagtgttgg atatagatcg ctagggcccc  36540
ttaaatgcct cattggcagg aatgtaaaaa tggttcagcc acttcgaacg cagtttggat  36600
tatcttgtta agtgaacgtt tatatcttgt gagccagcaa attccccta gatagattct  36660
caaagttcac caggaaacac gtacaggaat gttcataata gcatcatttg taatagcaga  36720
acctggaaga aacccatgtg ccatcaacag gaagatggat atatcatggg atagtcatac  36780
```

2176

```
aatggaatat gaacaaagca gagacatggt gaattaatca tggctacaca caaaagaata    36840
cctgaatctt agcaatgtga cagcgacatc cttttcaaa agcccaaaac taaacccaaa     36900
gaacataaca agaatgtact ggagcatcct ttgaaatgtg gtaaggctac ataaaaaga     36960
aaagcacagg aatgagaaac acaagattca gaacagcggc tgccttagtt aaaggaggaa    37020
cagggatttg gggtggcaga agaccaactt gtggtccacg attgagtgat ggagtttttt    37080
ttttttttgct ttcacagatg tttatttcaa ataaataaag agagcccaat gatgagagtg   37140
ggccttgaac tgaggataat aagcccagtc ctaaagacca gttattaaaa aaaaaaaaaa    37200
aaaaggactg gccgggtgcg gtggctcacg cctgtaatgc cagcactttg ggaggccgag    37260
gcgggtggat cacgaggtca ggagaccatc gtggctaaca cggtgaaacc ccgtctctaa    37320
taaaaatata aaaaaattag ctgggcatgg tggcgggcgc ctctaatccc agctactcgg    37380
gaggctgagg caggagaatg gcatgaacct gggaggcaga gcttgcagtg agccaagatt    37440
gcaccattgc actccagcct gggtgacaga gcgagactcc atctcaaaaa aaaaaaaaaa    37500
aaaagactag agtcctttcc ctccaggtgc tcataggctt actggaacat acaggaaagt    37560
cacttaaaaa tggacacact gtcactgagc atgaacaaat gtaggactgc tgttacatgg    37620
tcatactcgt ttaaaaggcc tacttgaacg tacagtgtca catcaacaga tgaagaaaac    37680
agcgtcgtca cacagtggcc tgggctgaag aacttcactt taaacttttt gctggcttac    37740
gaggtttgaa aacactagct tactgttagc tttttacatt attttagtaa ttctttaaga    37800
ttggaactaa atttgttcat atgcagtgac ttcaaatact ctcccctac ccacagccta     37860
ccaacttgga cctgagaagg taaattttta gttgagtttt agagaagaaa gaagagtttt    37920
tcaggcactg acattgatga ggtgatacag gagtgggggg aaaattcctt taatccagct    37980
ttctgcttct aggaagagta tgccttctgg aagtccttgt attcataaga ctgtaacaga    38040
agatgtttcc ttttagggta aaattgaact catctgtctt ttcttccatg ttgatgtgaa    38100
aaattagcct tgaatgccac agtgagctcc cctagtcagc agtgttgagc actgaatcca    38160
accttgccct tgatattatt tgatcaaaag tcaagaaccc tggaaatggg aagatagttt    38220
gtggcctgtt gtgaagacag tcaagaaaag aaacataatg atagtcagtg tgtatcctca    38280
ggggagccac tctgcttttg tattctctga tgttttggtg ggtttgcagt ttacaggtta    38340
aaaaataatg tattgggagt gggggtgagg ttggatcact gaaacctggg taaggctctg    38400
agggagtcca ctgagtcagg aaataactgt ttacactaga aagctgtttg atcgtgtgag    38460
aagatcaaca aggtgagccc tttactccca ttctcaacta ttctggagct gtcatgagat    38520
taaattttta agagctcggg tccagaaaca agccatcttt cgttggcttc tctggcttcc    38580
tcggatccac cagaggcatt taggacttca gcaagttttc tcctgcctgg tagcatgttt    38640
tccctcagct ttgagtacta atgaaaatcc tgcttcatgt aagggaaagg cctgtcatca    38700
gtgtccgctt caggacactg ccgtcatgtc cctttctgtg ttttgatcag tggggcagac    38760
agagacagcc ttgtcctttc tgtcaggaag atggggttct agctgcttca tattttgcct    38820
caatgttgat tttgctttca gggctcaaaa tccttagtct tcaaactctc caccaaagct    38880
tgcatactgg ccttcctgtt tagctcaatt aatggccctt ataccgtctg ccagccacca    38940
ggcactcact cgtttattcg gcttatcctg actgctgctc taccataaac cagacactgt    39000
tctccatccc aggaatgcag tgaatgaaac aaattccccc tctcctggag cttccagtcc    39060
acatgggagc caagcagtaa ataacatgtt tatccacctg ggatggaaag caaatgtgct    39120
ttgagcagat gactgacttg atgtaactta ccttttttt tttttttttt gagacagagt      39180
cttgctctgt cgcccaggct ggagtgcagt ggcaggatct cggctcactg caagctccgc    39240
ctcccaggtt catgccattc tcctgcctca gcctcctgaa tagctgggac tacaggcgcc    39300
cgccactccc cgcccaccc cagctaattt tttgtatttt tagtagtatt tttagtttca      39360
ccgtgttagc caggatgatc ttgatctcct gaccctgtga tccatccgcc tcggcctccc    39420
aaagtgctgg gattacaggc gtgagccact gcgcccggcc gatgtaacat cttttgaaag    39480
ggccattctc attgccatga ggagagtgga caaggatgga aggaaagaga acaaattatg    39540
agactactgt aataatatat tacaaatcca gggatccttt gttagttatg atcgagatgg    39600
agaaatagtc agatttggga tatatattga atttgagcct gcaggcctcc cagttgattg    39660
gggaagatat gttgagacga gtctgaatca aaccttacgt tgaaagtgat gaggaagcag    39720
accctgccat attcctcttg gagagccttt gggcttctac catgtagcct gacagagagg    39780
tcagcaggac tgccctgggg aaaggatact ttattagcct gtgtaggcag ttattggaat    39840
gacagcaagt gctttgctag gcaaggagat aagaacagag ctctgctacg tggagaggca    39900
cgccaagctc cttcccccaa ccccgctgcc tgcagaggtt accagcatcc tctcggcagc    39960
agtcgtccag cttctctcct gatgggttag cagcggcccc tctaccgccc tccccacttt    40020
cgatcgatat ttgggctctg agtagccaac tgtaagcctg cgtcttgaag gaaaaattga    40080
gactggcggg gtatgtgagt gtgtgatata aacacaatgg gttttttact ctttcccttta   40140
gtgcagatca ttgaaacttc tataaagtct ctgtaatacc cttagagagt acaattaata    40200
gtactgaaga cgtccttata actgaacttt gtaaaatta ttgctggatt tttgtctttc      40260
cagcacacat taaacctcac caaggtatgg ggctgtcctt cagatgtcac agcctgatga    40320
actgagtgct gacctggctt tgggagcact tttcagttat cccagctgtg catggcccat    40380
tgcatggcct gtgacaattt tctggggttg tttctgtcca tatttccaac ctgacttgcc    40440
```

2177

```
caccagggca ctttctgccc ttgtaagtaa atctctatgc tgcttactgt tagttcctgt   40500
ttctgaagtg ctgattcgat gtgtaaggct tctcctctct tttagatctg tctagagagg   40560
agtgttttgc ttcagtgagc tccaggaaca aataataagt acagcaagta caaggccgag   40620
gacagaccca gtgcactctt atcagtcatc tgaaatatgc acagcctttc caagacaaat   40680
gtgcactcct gtttctagga aaacaccaga aagtacttac caattaccct gtatatgctg   40740
tgtggaaaaa gacaacatca gcctaccctg aaagccataa caaagcagat tcctccgggc   40800
cgccgacagc tgagtggccc gagttagagc ctctgcagaa tcccagcctg tggcctgggc   40860
caggtccagg tccaggtcca ggtccaggtc caggtccagg tccaggggc attcttcccc    40920
tcgcatgatt accacgtccc tcaccctttg cccaaggaac tgacctcatc ttagaagaag   40980
tctcaagggt tggtgtgttc ttactaagtg cccaggattt tcttccagac ccatcacaaa   41040
tccaaagatg gctctcctga agagaggcct aaaaaagagg gtgcggccca gggggatcta   41100
ttatagtaat aaccgcagga acgagagccg ccgctggtgg gcagctcacc atccgccagg   41160
agcaggcttg gcgggcactg tttttatttgg tcttcacagc agtcctctaa ggtaggtgtc   41220
atcgtcctgt ttcagagaga aaacggaaac tgagggttaa ggaaggtaac caacttatcc   41280
atgatcacat ggccagaaaa tggtagaggc aggattcaaa gtcaaatgag ggtctttaac   41340
cgctatttca tggtgtattc acaggcagta ctgtaggtta attctgttca ctaaatgtaa   41400
agtatgtctc gtattacaga gtgcttttgt cttagtgaga aaggaaaatc attttaacct   41460
gcacacttaa cctcttggct ttatgtccat ttacccatct aggactcaag cacagagggt   41520
tcggaaaccg cgttgctgca cggggcccca ggggctgctt ccccgatatt ctgagagcca   41580
ggcggaagga caggagcagc tcttcaaact cacagacaac atacaggacg aattgtaagt   41640
tagagcatgg gaaaccagcc ctgtgggtct actgagttgc ctcttctttt gatcctgaga   41700
agtctccatc tgatctgagt tattttcatg actcttggac cttagatctg gtcaaagaat   41760
tccttgcccc aaatgttttt tagatttaga tataactgat gctaaacagc cttttactca   41820
aagcagtggt tctcaactgt gtgccatagc ctggccttag tgtttтgttt ctagaaaatg   41880
acagtctctt tctagttagt tcaaagagag aagatcatga ataaaatgtt ctcaatttta   41940
aggtttttct cctgtaaaaa tttcttaaag tttgatatcc catttttgcc gcagaatgct   42000
agcaaaacaa aacagaaaaa caaatagcaa acaactaata gttggacatt ttggaaatgt   42060
atttttcgta agattgcttc gttactcttt aaatatggag ccttatatac cttgtcatat   42120
cttcagttag tgatattatt cctagttgac acggtagagt taagtatttc actattttag   42180
gatatttttgc agagatcctt gtagcatgaa agtgctctat aacctgaata ggtgttagaa   42240
ccaccagccc acagaaagca gttagttgtg tctgggagta gcaaaatact agattaattt   42300
cttctgatgc ttatttgcca tctcctttaa ggtaaagcga gcgtggggga ttctgagtgc   42360
tgtgggtgtt tttcggtggg tggaggaatg tctgaaatag acgtcaactg tcaggatagt   42420
cttcagagtc attgttaggg acagtgttaa gtagatctca tctcatagtt tcatggtagt   42480
atttgaatgg ggatatcaaa agccaactcc agaaggtatt tgttgcttgc cggatagaat   42540
ggcatcttcc tacatgtgcc ttgtgtgacc cctgtggtgt tattagaagg tctcttgaag   42600
atggagttgt actttcttgt ttcgtctact tgggttgcca ttataaaata tgataggctg   42660
ggcagcttaa gcaacagaaa tttgtcttct cacagttcta aaggctgaga ggtccaggat   42720
caaggcatct tctgattctg ctgctgctgg gggttctctt cctggcttgc agatagccct   42780
cttctcactg tgtccccaca ttgcagagag agagggggag ctctctggtg tctcttataa   42840
gggtactaat cctatcagct cagggcccca accttatgac ttaatttaac tgtaattact   42900
ttcttactcc aaatggtcac attggggtta gggcttccac atatgaattg gcggggaggg   42960
ggtaactctg tccacagcag gtgttgctaa taggttctgc cgtttcagtc cagtgcccag   43020
agtgcccatc agttcactcc agaactgctc cagttcattc cttggggcag ggatttggta   43080
ccatgactgc tcttgatatt gctttgtaga tggaactttt agcctttgga tggggggtct   43140
agagacccccc catccaaatt tctcaggtct ggcaggatgt ggtgcagagt ctactacaat   43200
ggcagccctg tgaggctggg atttttgcct gttccattca ggaaagaatc ctcagcacat   43260
agaacagtgc ctggcatcta ataggtaccc agtacatata gccagatagc tgcagttcag   43320
catttgtgtt cacatgcgtc cattttccat tcatttgggg gttttttagt cacaggctaa   43380
atgagattat aaattattgc atgttttctt ttcacttttcc tccccaactc acctctattc   43440
aagtcgaact atctctggtc actgtgaaat ttgtttgcaa tagaagaaat tgcgtggtac   43500
agccaacata ggactgctcc cagtgagata cacacattga aaaacagagc cagagagagc   43560
taaaaactgg aatcgaaatg aaatcagtaa aatagctttc atgaaactca tgaaattcat   43620
atgaactagg aagagatatt ggcatgaatg aattttgact ttaaagatga aaaccatgtg   43680
tctccaccca agttgtgggt taaatcttgc caatgaatgc tgaaggaggc acgtgaccac   43740
ggccttccca agtgtacaag gaagaagcca tcagggagtg tgtcgcatgt tcctctgaag   43800
tgtcctcagt tgtcagcctg ggtcttcgcg gtggagtgaa cattacactc atcactctgc   43860
aagaaaggag ttttcaggaa aagcccacga gcgccaaatt atacctctga cttttatcct   43920
agatttgtaa ttaaaaacat gtttaaagac ctaattattt gcgtatttcc cttcagagtt   43980
aaccccttta aaggatcttt aataccttgc tctactgttc tgactaaatg tttccacatt   44040
ttttttccagt taggctcact gtttcacttc tggaaaatat tgtgtaatta tttcccgatg   44100
```

2178

```
gagtgaaaac cccacgaagt ccccagtgcc ttggtgactt caactttatt ctcccagatc 44160
gagttgcatt taattttgtc attctattta attaattaat attaaaaga tagttaccaa 44220
cgtatgattt ctggtctggc cagctgaaaa gtcttcactt tcaaattaat catatattcc 44280
tctgataagt tgcacaattg tcattgcttc ccatctttct cagttttggt tttgaaacag 44340
gatctggatt aagatgatgt taaagtaaaa tttgtcctat atggtgaaat taattttttct 44400
ttctaactca tgtctcattt gtagccagaa actcattttc ttttttttaa ggtacctatt 44460
ttatttctaa tactgcatca cctataacgg tgcacaccag gctggtgagc agtagggtgg 44520
ctcctgcctt ttaaaaaatg ctcatgagca acccacatga cctacgaagc tgctctaatg 44580
tactgctttc tggaattaag acaatttaaa ttgtactttt aaaatatagt tttagaaagt 44640
aacatttatg ggattttta aatacagaaa agtataaaaa ataaaagtac cctatgcatc 44700
caccagccag ataagttgtt cctcttttca attttttgta gagatgaggt ctcgccatgt 44760
tgcccaggct ggtccgaact cctggcctca agtcatcctc ccacctcagc ctcccaaaga 44820
gctatgaggc caaagtggga ggatcgcttg aggccgggag ttcaagacca gcctgagcaa 44880
catggcaaaa ccccatccat acaaaagtta gccgggcatg gtggcacaca cctctatccc 44940
cagctacttg ggaagctgag gtgggaggat ggtttgagcc tgggaggtca aggctgcagt 45000
gagctgagat cacgccactg cactccagcc tgggtgacag agtgagaccc tgtctcaaaa 45060
agatactcat atgcatggtt agcaaatcca agagtataga agaaaataaa atcaagagta 45120
aaagtctctt ttcttatcta ctttgtaaac atgctgttta cgattttgt atcttgtctc 45180
cttgagaaat ttcacagaga gagagcaatc aggaaaattt ttgagcgcac catataatat 45240
tgattctaat agcatatcat tataaataca aaccttatag taacatatgt agtctcaagg 45300
actatatatg tttcattcct tctgaggaat ggaatagaat ttattagctt ccatttccta 45360
aaccaggaaa taatgtacta gtaactgttg acacttacag aattggccat ttgttgatac 45420
acctctgaat taaaacttgg atttggcaga tggctcagct actctgataa agttaaaggt 45480
ttgctaaatc tttaaaagct aaatcaggag ttctaagaga agttttcaac tttcctactg 45540
gtaacatgtg tccagcatcc aaagttgcct gtgcactggc aaatttcttg ccttacccta 45600
atgccagtgt cattttctga dacagactaa cgcatacatt tattgaatcc tactatgtgc 45660
cagggtgagt aagaaatttc ctctgtcctc agtgcgttca cagtttagca ggggaagcag 45720
acactgtatt accaacaacc tataacatat attgctgtta aaatagaagt atgagcaacg 45780
tattatggaa ccacagatgg gaagtgatta atttatactg gaaagccagg gaaggcttca 45840
cagagaaggc gctggatgag tcgcctgacc ttgcaggagg cggaggaatg tgccaaggag 45900
agaaggcgcc tgggcagagc acagtgctgg gcagatacac gggacagaag agctcacggc 45960
aggtctgggg aatttggggt cagctttttg tagcagcagc acgtgtggaa agaaggagca 46020
gaggctggaa gggtgggttc ccaggcctgt tgctgaaggc tgaccttagt ggtcatgccg 46080
aggagcttgc ctctcctgta ggtgggagtg agattgtgag gaagaggatc ccactcaaaa 46140
ttcgtcatga aaaataaaac cttgacagca gcaggtagag agactgaagg caggaagcca 46200
gttaggaggc ccgtgggata gtccaggtag aaggtggaga ggcctgaaca cagtggccgt 46260
aacgatgact agaagaggac agattggaga ggcatttagg aggcagcatc agtggaaccc 46320
tcaactgcta aattggaatc tgagtgagga ggagggttga gagtggcttc gggctccttg 46380
cctgtctggt tgatgaggct ggggggtgctg aagagcaagg gttggagaag gagcatctcc 46440
ccagtggacg agctgaggtc ccctgaagag ggcctggcac tcagagcgac actgggccca 46500
gacatggagt cagggccata ggtggacctg gggtgggtaa cgcctagggg tagaggagcc 46560
tgttccagga gctctgagtc aggcttctga ttttgaaatg actccagagg gagtagaatc 46620
aggtatataa atgagttaat atcgaaaaaa aaaaaaaga gcaggaggaa aattaagtag 46680
agtggctgaa acagttactt ggcagatttc tccctgagag aagctggtca tgagtctgtt 46740
ttccatgtgg ccttctagag agacatctct ctccaatctg ctgatgagag gatgtgtggg 46800
gaaaggaggg gtcatccccc acaggtttgg ggtaactggg cacctgttct caacagaaga 46860
gctaccatta actgcggatc tcttctgtgt ggggcacgta gattagctca caccatcaca 46920
gtggccctgc agagtagacc catggggttc tacacatcag gatggggaag ctctgggcaa 46980
agtgagaggc ggagacgact ggcatcaggg tggctggctc ccctggcgag gctgcagtgt 47040
ggcttgggag gacgttgtga cctgccccag aggaggcctg aggctgctgt tgatgctacc 47100
atggctgctg ttgttgagaa tgccccgtgg ttcatggttt atggatgaca ttagtgatgg 47160
tgcattctac taaggcggca ctggctcctg gcagattcac ccactcttag cacctgtcat 47220
cttggaaaag ggtgtaagct ggtgctgcag ccttcccttc tctcagaaga aactttctga 47280
cactgagccc caagcccaga gtatcctctt tctctcctta aagggggagtt aaaacttttt 47340
tctttcttct tcttcttttt tttttaata gagatggggt ctcactatgt ggcccaggat 47400
ggtctcaaac tcctgggctc cagcgatcct cccacctcag cttcccaaag tgctgggatt 47460
ataggtggga gccaccatgc tctgccctaa gagttgaaac ttttaaccga ggtttaagaa 47520
tagtataaaa atcctatttt ttaaatagaa tcaattatag tatctacagc aacctaaaat 47580
gtgtcaactg aatactgagg tgacttctct aggtctcaga ttggaaggat aaagcttatc 47640
tgatgctgtg tgtttctggc tgcattttt tgctcccctt tcctctcagt taatagcaga 47700
tcagagaaca gaaggagttt gctcagggcc acctgagacc acggtggcct tcttcccttg 47760
```

```
aggttttttcc aacagtcact cattcgtgga ccaaaagcag gccttgcggg aagcttgatt   47820
ctaagggcag tgaagacagg agagcctggg gttgagacta caaagcagtg tgagcactca   47880
aggaacctca agtgaggcaa aggaaagcct gggagaacta ggccagggaa ggggaattac   47940
ctgtggcttt agggaaaggg aacggaagaa ggtgcagctt ggcagagggg agggcgggga   48000
gcgtgccgcg tttgccaggc ttctcttacc accctgagtt ttgctgcttc tctcacagag   48060
tgacaagttt gatatgaggc tccattagat aaggggtctg gtctggagct gtttaattat   48120
tctttgatgt gtttggcaga ttttgtaaaa aaaagaaaaa gaaaaaatta aaattaataa   48180
taataacgat gatgatgcaa cccaaagccc tggccattgt gggatgcagg aaagcctcag   48240
gaggatgatg gggacagagc tgtggccacc tggtccctgg ggtcactgcc cagttccagc   48300
tgtggcctca ctctctccct tctccttctt cagccagacc cttggctctg atctgctttt   48360
gatttgaaag gactttagaa catttcatgc acaatttcca gaaatatgtt attatcagta   48420
gcagcttcgg ggcatgcaca gggtcctgga cttacaggac agagatccgt gtggagtgac   48480
agcactgcct tcctccactt acctttctgt atgaccatga attccttgac ctccgtgctc   48540
actttgtgaa gaaaactggc agggattacc ctctccatca gagagatgaa agagtctgag   48600
ctaccaagaa agcaacggac tcggccagag tcagccagcg ggccgggctt tcctgccagc   48660
tcggcctgtg tttccttcgc tgtgctctct acttttccgg agggcgtccc agctcagagt   48720
cacccctcct ccagaagtgg ttctggcctg atggaggact tgaaccatct ggggcatctt   48780
ggaaaagagt ctgtttgaaa gcctatagaa gtgttccagg atggaaagca cactagtcat   48840
gtcggccact ctggcctggg tgtgagagca tctgcccgga tgggaagccc ttggctgaca   48900
tgtaaatgtc agctatgtca agtgcccagg gtggtggcgc tgggggctgg gggctggggg   48960
ctgggcaatg aggtggaagt gcctgtgctg tgctcaccta gaggaaggaa cctcacatct   49020
cagttggatt tttcatgcac attcctgctg tcatcccaat catggtggcc aactttggag   49080
tctccttgga gagcctgtga cggcctcagt ggctgtgcac caggcccacc gatgctcagg   49140
ggtgtaggct gcttccgggt ctcatctcag atccccgcca gttctggctg gcgctgtgtc   49200
acctcttctc tgtgtcagga tcattttttat ccctctctgt ctgtctttct gtctttccct   49260
gtgccctcct ttcttccccg gaccagctat ttcagattcc attcaactct gttcagtgat   49320
gctgccgctc tcaatgcggt tagagcgcaa gatgtgagaa cgtctgtgct gagtggccta   49380
aacactgaag gctgcgggtc tttctaattt cagcattgag actttacaag tccacattct   49440
tggcattgcc aaccagttag aatagaacaa taaatcccag tttttgtcat gggcgtctgt   49500
aattaaaatg gcaactggaa caaggcagtc acttactgag cgctgatggg gtggccaact   49560
ctgtggggtg ctcaggaaga cacggggctg tgagatatgg actccactta gagggctcac   49620
ctcgtagtca gcaaagagac ttatccagga catgtggaaa gaatgagttt gtgcttggcc   49680
atgctttggg ggccatcaca attaaatgct caaaagtgga ggaggggctg gagtatgtgg   49740
gggatgcttc acagagaagt tagaacctgt gatccttgcg gggaggggga tgggatctag   49800
agaagttggg agagcaggtg tgcgtcctgc acggacccca agtgagcgag ggcccggcag   49860
cctgctcccc tcgacaggca ggccacctcc tgcccccagg cttctgcccc cttcagagga   49920
cctgggaaca acgccgttct ggaccaggt ttcagaacac ttccaggtgg agcctggctc   49980
tgagcaattc agtttgccag caggagctcg actgccactc cgtcgtcagc ctttagtatt   50040
cctgccactg tccatccttg tctgctgtcc ctggacactg cagccccatt gtgaagggct   50100
gtcacaagat gcaggggagg cagccaggcc cgggagaact gtcacactgt tcccaaggtt   50160
cactgctctt cattcagtgg ccagagaggt ttgatgtgca taaatttcca cttttgaatgt   50220
gtgagctcca tgatagagga attcagtttt gttggagtgg ccctaaagct cctgaagtaa   50280
caactagaag tttccaaaag gaagatgaca gttttaccta agaaagcgtt ttctgactct   50340
ttgagttttc tgaacatgaa gtggatgggg gggtgccctg tcctggagg tgctgagctt   50400
agagagggag gaagcggatg gggaggtgca ggtgttttaa cgccaggctg tctcttcatg   50460
gcgtgccatt tggtgaacct gtttaattct gctttttcccc cctcagcttt cagcgccccc   50520
agctgcgtct tctcgcccct tcatgtttcc ctctcctctg ccaggcagtg aactttctca   50580
gctgctcctt cagtttcaca ttgaaaggca tcgtgttttc tgttttgtcc aatagagtat   50640
tgttacagtt ttctgtaagc tttaagctat ccaaaaatgc tcacagaaaa acaacaaaca   50700
cccacaagat agaatttcag gatttagaag tatttcccgg caggggggcc gggattcgca   50760
ctcaggccct ggggccacag agcccgcagt gggcctcccc ctgatgctgg gcgaagcccc   50820
aggtgtcact cctgtgttcc cgtctcgctt tgcagcttca tcgctgtgga gaacattgac   50880
agctactgcg tgctcatctc ctccaaagct gtttacttcc tgaaagtgg agactacgtg   50940
gatcgagaag ccatttttcct agaagtcaaa tacgatgacc tctaccactg ccttgtctcc   51000
aaagaccatg ggaaggtgta tgtgcaggtg accaagaaag ccgtgagcac gagcagtgga   51060
gtgtccatcc ccggcccctc ccaccagaag cccatggtga gtgcctggct gttctcaggc   51120
tcctgagggg cggggccagg gcctcgatgc ctctgccctg cttcccgtc ctcagcagga   51180
actcatttag gaggttgagg ctgggccctt cccaggagtg ctgcctctca gtcctgaaca   51240
tgggaggggc ccagggtatg ttcacggggc gatgctgccc tcccagctgg cccatgggtg   51300
accctgggaa cattaactgc ctcacaacgt ttgtgcctca gttacccgta gatgtagtga   51360
gggtaacaat acttactctc gttggtgata aggaacagct aacacaacac acagggtttt   51420
```

2180

```
tctgctccca aaatgggatt cttcagtgca ccaaatcgaa gaaagcactg gagctcacgc   51480
tggtttctcc attgtttctc cttaacagtg gaaaccgtaa cttttgttct agtagcatct   51540
agcatgctca ataattattt gtaaataaaa gttatacttt ccctccaaag gggacaaggt   51600
attgttatga caaggctttt aaataataaa gctcctgcga atagctaacg ttcctagagg   51660
gctggctgtc ttgtgggttg tctgatcact gtgttgctgt catcccctcc tcactattgg   51720
tcatagcagg tgattcattc aaggctacac agctgacctt gaggagccgg ggttcaaatc   51780
cgagtggctt ggcaccagag ctggctgcag agcctcttgc ggatctgtct ctggccagtc   51840
ggccctggag gcttgccatg acacccaggt gttagtcctg ctcattctca cccggcatac   51900
ccggattttg aagcttgcat tcaagaatga tacattaatc aaaagggcct gcccacctct   51960
gctctctcta tggatcggaa atagcgccag ccttattggg cctctctcct ccggagtcct   52020
ttggcctccc cctgctcatg aatgcatttg ggcctgtttg gacttgtgta aggctcccgt   52080
ggggtcattg gcttaagtta gagctggctg atgaagaggg cgagcacctc aaagtgtgag   52140
tatttctcca gatcccttca ctgtagcagg tgggcagcct cgcccactat acttctgccc   52200
ctttcaaagc aggtgggcag agaggtgttt gtggtaagaa agacctagag gctttttgttc   52260
gctgattctt cttccttcat cagccatcac cagaccttag atgtgaatcc cccattcttg   52320
ctcttggtct tacctctgca gatcagttat ggccgtgggg gggagttccc aaatgtcagg   52380
tgagtatggg ttggctgtac agtcctgggg aatgtttaaa aagaccggct gggcgcagtg   52440
gctcatgcct gtaatcccag cactttggga ggccgaggcg gcggatcac gaggtcagga   52500
gttcgagacc atcctggcta acacggtgaa acccatctc tacttaaaaa aaaaaaaaa   52560
aaaaaaaatc gttagctgtg cacatgcctg tagtcccagc tactcgggag gctgaggcag   52620
gagaatcgct tgaacccggg aggcggaggt tgcagtgaac caagattgcg cctaggcgac   52680
agagactccg tctcaaaaaa aaaaaaaaaa ttgcagggac ccaccccaga cttgtgagtg   52740
cgagtgaagc aggagcagcc ctggccatca ctgtttcttt gacgtgtaca tcccatcctg   52800
agatgcagct gggctgggag ccgccacctg ggtggatctg attcctggat ttccccatcc   52860
tggggacagg tgacccatcc tgttctcctc cttaggtcca tgtgaaatct gaggtccttg   52920
ctgtcaagtt gtcacaagaa ataaactacg caaagagcct ctactatgaa cagcagctta   52980
tgttaagact cagcgaaaac cgagagcagc tggagctgga ctcctgaagc cccgctgctg   53040
agatgggcgc tcccgacaca gcgcagaccc accaggagga aagaggccca gctctcagct   53100
gacgatggag gcagaaccgg agtcgggttt ggggaagttg tcaaggaatg agggaaagta   53160
aatcctcatg aggaaaagta caaatggaaa tcgtattaat ttgtgaggca gggagttatt   53220
ttagattatg ggaaataatt tttaaaggta ttggttaaat aacgtttaaa aacatgtact   53280
gagatgaatc taatttttag attgccctgt attttgttaa catgtatata tgtacaacag   53340
tgtgtttgta aatatatagg aacgtttctg aacagggtct gtgctatgtg taaaggtttg   53400
ttaactgtaa agtaatataa agttatattg gatcttctat tgcactaatt ctagatgtct   53460
aattcaggat actgtctata gaaaggcatt cttaaaagtt aaagaatgtt acgtcttagt   53520
tttggagact aaagtattcc cagtaaagtg ggttgaggtg agggctgtgg tcctgaaagg   53580
gacgcctttg acatcgtggc tgtccagttg ggctgtgagc tgtggcaccc aggactggcg   53640
ctggcccttc agaaggatct aggagagggg cttgggagcc cacttttaat ttctcacccc   53700
cattttacaa agagtgctta gattcttaca aattatgatg taagttatcc atttggcttt   53760
ttcctaacta gtcttaccaa acttaggggg aaacctgtgc tccattacca catgggtgca   53820
agtcagcatt gtaagttttc tcaggttatt attattagag aggttggaaa cattggtaaa   53880
ctctgttgat tgagaaggaa aaaaaaagtc ccattgaact gttgcaacaa atcagaaatc   53940
cacataaaag tgctctcctg cctgggcagc aacaaccaag aacaaagccc cgggactgtt   54000
ttctttttaa taaagccaca ggcaggcatc gtagctccac agcccgaggg gacacaggat   54060
ggaaacccca ggatgagaag ggagcaggga gagttccaga aagggggatg aaataggagt   54120
attaaaaagc tgcgttggta agtttttcat ggaaccaaga tttgacaaag gcatctctta   54180
tccttggttt taaattcctg ctgggagcaa ggcctggtat gagcgccctg ggtcttgttt   54240
ttggtgtttc gcttttctgt aaggattaag cagatagGga gaagGgaaaa ggggcctcac   54300
tttagaatga atgagtcacc ttgtgatttt taaattttta ttttaataaa gctaatcaat   54360
ttctacaacc ttgtcacatg tagctgagtc tgggatgact cagtggatca gtggatgcgt   54420
ggaaggtttt ggtgtttata actcatgacc caaatccttc caagacacaa atgaagctaa   54480
tcttcttccc ctccctttcc tctcccactt ccctctgtg tctgtgtctg tgtgtgtgtg   54540
tgtgtgtgtg tgtgtgcgcg cgcgcgcgtg catgcagaga ggaaggaagg gagctttagc   54600
acaagtagct acatagtgtt caaggatcag ctttcttgaa ctccgaggct tggttgcctt   54660
tgctgaactc caagttagtg gattgcagaa tggaaacttg gcttttgcgg cactgggtga   54720
gttttagttt gtgtgtgtct tgctgggggg tggtgatgat tgtctcagca ctcacgcact   54780
gcacaagatg gcagcaggat acagcactgc acaagatggc agctcctctg cagcttcctc   54840
ctcagcctcc ctccttgcac ccccacaggt ttggcttgtg gtttttgtca tcagtaacct   54900
actgcctgag atcatgatct cttaaaagat gagactctcg gaagggttga ttgtatgcgt   54960
cagtgagcct tctatcacct tctggaacaa agtcacttga aatctcttga tgagattaag   55020
gagtttagtg ttactaagaa aatctgcttt gggccgcagc agtgctgggt gttctcagac   55080
```

2181

```
ctgactgagg aagttagctg cgggctgccc tgtgggctgg tgcttcagga ggaatccaga    55140
gaagtgttca gatgcccccc ttgggctcct ttctaatttt aatcagctct ttaaatagct    55200
gcccatctcc tgtgattgca caaccaagca ctttgacatt tgcaccttag gagaggcaga    55260
tgttaaaatg gaatccaaag accacctagg gcggggctgg gtgggagatg ggagggccaa    55320
ctgcgagctg ctccacttct cagctctccc ctgccctgca gccctgggcc agacaaggcc    55380
agaaggtttc aggggcattt gacatcccct cctggttctc accaggaaaa catccaaagc    55440
tttggaggaa acaggccctg cccctggctc cttaaatgcc ccgtctcttt gtaaactgat    55500
attcagccag caatgcctaa gactttgtta agatcatttc tactgctttt ctttctgctt    55560
caaacacaca gttcgtctct gaggaaagta aaataaatgg aataagagta aattgggtaa    55620
ggagatatcc aaagctaccc agtcccttga cccagcacag ttggccgacc cgtgtcactc    55680
cctggctgtc gctgcttctc tgtgctcact gaagggtgag ccaggccagt gcttccccag    55740
cccctgggcc tggtcactac acagtggaaa acagacaagc ggcccttcc ccaaatccca    55800
agagtgtctt gctgcttggt gggtgctcat cgcaatgttc tgaaggctcc agggccactt    55860
tgtttgtaag tatgatctgg gcctcaaaat accatagtag ctgcttgata aaattctaaa    55920
aatatctggt tctctattat gtaaacacta ttacagtcac cagtgtgtga agactcttga    55980
gtctggttct catatcagag tcatcatttt tcttcctgtg gaataaaatg ccttgtggac    56040
ttcccaaact tgttcttttg ttttcttctg gtctcttggt gatccacagc ttctagagct    56100
atcaccagtg acaaatacca aacatagtgt gatgttcaca ataaaatgtg gcctctgccc    56160
ccaggcctgg ggaagcaccc ccacacctta accagtctca gcctcccaag agtaagtagt    56220
agtctccgcg ctacactggc tgctgatcag tccattctga ggttcctggt ccaagcccca    56280
gcaggacaga cgtcacactt agggtttagg cagctgaaga agaaacagca aaggaggccg    56340
ggcatggtga ctcatgcctg taatcccagc actttgggag gctgaggcag gcggatcaca    56400
aggtcaggag attgagacca tcctggctaa catgatgaaa cctcatctct aaccccgact    56460
atatcgcccc tctctattcc atccactcca cctcaaaatt aataaccttg tgtgtcgccc    56520
aaattttcac cacgttatat aattatgtgt ataactaaaa ctacaaaaaa ttagctgggc    56580
atggtggtgg cgcctgtag tcccagctac ttgggaggct gaggcaggag aatcacttga    56640
acccgggagg cggaggttgc agtgagccga gatcacaccg ctgcactcca gcctggcaca    56700
acagcctggc aactctgtct caacaacaac aacaacaaca acaaaacagc aaaggaggct    56760
cagcaggatc atccagagat ggagtgacac caggagggta tggatcctag aagctgaggc    56820
cagaaaggtt tcaaagacta ccgagggctg ctactaagtc aggtgggatt cggaccaaca    56880
attatcagtg gacctagcaa tgctgaagtc actagagacc tttctaagag ctgtttcaat    56940
ggagcattgg aggtgaaagc cgggttggag tagattcaag aggaaatgg aaggagagaa    57000
ataacaacag ctctctacag gaatctggcc ataaatggag agaactgacc ggaaattcaa    57060
gagggcaggg aaggaataag ggagaagagg gcctggcggg ccaggaagat gggtggaggt    57120
gggggagctt gagattccat tgattgctcc tgatttctca catcaggcaa gaatgaatac    57180
agggcgggaa gtgatgctga tttggagaga gagaaggtgc acgtagtcat gtagggtaac    57240
gggaaaggga ataggccaca gaagcatggt atgtttgccg ggcgacatta aggacccatt    57300
tgacgttgat gaccgtgaat gtacagtgga atcgggcagc ctggctgtat tcttgtccgg    57360
ccacatgtag ctgcacagct tcagtgttgt agaacaggca aagaactggc tttaatcaag    57420
aaatgttccc ctcacctatt caagtacctc atccaccatt gcccagttga actggccaag    57480
agccaatcag aacaaaatgt caacagaaat ccaaaagcct agagaaggga ggggctacgc    57540
tttccaaacc aaagcacagc ttctgaagac tatgcccctt ccaagtggga gagacagtgg    57600
aaggtgtggt taacaacccc cacacgcgca cacaattaga ctcttttcag gggttcacag    57660
atgcagtggg acagtcagtg tttgacagtg aaccagccag gcactccagg gcatggggat    57720
gtcattgaca tagaaagggt atgtgtatga cgatcttcca tttcctcagc cgaattcagc    57780
aagccgtctt gcaggtattg gttggctgca aacacagctt tcaccccagc tctttagacc    57840
aagaatgtga tttctagcac cgtaagagat acttgatgtt tgctgttcac tggacactgc    57900
atcccaagac cctaataaca gaaagtgctt cctgaaaaca cacccaagca tgttcattat    57960
tatttagaag tttggattaa cctggaagag cacttcttca ggaaattgga agtgagattg    58020
cactcgcatc tgcaagggtc ttgaagatca tccaagttgt ggctctctgg ctgagggcat    58080
gataaaagca atcataaaga ccaaagaaag ggactgtaaa cctagcgctt taggaagcca    58140
agccaggagg atcaagacca gcctgggcaa cagagggaga c                        58181
```

<210> 2136
<211> 4802
<212> DNA
<213> Homo sapiens

<400> 2136
agtttgctgg aacattatca gatggcttac ggaagacgat ggacaatcgg catcagtcag   60

2182

```
agcgggagta catcaggtac catgcagcca caagtggtga acaccttgta gccggcatcc   120
atggcctggc tcatggtaag tcatgggtga catcaggctc tgctgctgct ggtcctcaga   180
ggcgcctttg tatcaatctg attgcagcta taaaaaaaga aaggtgggct gggcgcggtg   240
gctcatgctt gtaatcccag cattttggga ggcctaggag agtggatcat gaggtcagga   300
gtttgagacc agcctggcca acacagtgaa accccgcctc tactaagaat acaaaaatta   360
ggccaggcac agtggctcaa tcctgtaatc ccagcatttt gggaggtcga ggcgggtgga   420
tcatttgagg tcaggagttt gagaccagtc tggccaacat ggtggaaccc catctctatc   480
aaaaatacga aaattagaca ggcgtggtgg tacatgcctg tagtcccagc tactcgggag   540
gctgaggcag gagaattgct cgaaccctgg aggcagaggt tgcaatgagc tgagatcgtg   600
ccactgcact ccagcctggc aacagagcaa gactccaatt caaaaaaaaa aaaaaaaaa   660
aaaagaaaag gctgacaaca gaggaaatcc tgtgttggcg tacctgatag ccttccaagc   720
tctcttactt tatcctcctt gcagttgaaa tacgacagcc ggtgagaact cctcattcgc   780
tttctgaatg ttgtgcacat tgcaattcct tttcgttctc tggcttctgt tcccaaagta   840
tcataaggtg taatcaacca gacctgttct tagaattgta gctgctactt ctcttagaat   900
tgtaacctct gccttctcct tactgatcat tccttccaaa gaaatggaaa tgaggaattt   960
gtggccaggt ttgtagccca ggtgtttttt agttttacat aaatgtgcat tcactaaaat  1020
tataaattta tttgcctaag agatgttggt gatggcatga atgcatttgg tctctgactt  1080
tgaattcttt taatgcttta attctgagtc atttgccttt tgttgcattt ttcttaacaa  1140
tttcttagta cggcatccaa ggcccttgga actataaatc cagccaattt tccaaccacc  1200
atccttcagc catgctgcac tttggccaca cacagctatg tactgcttcc caggtgtgct  1260
tccaagtcct tgctcacaca tggtccttct gctctccctc ctctgcctca tttccttgtc  1320
tatcaaaatc ctactcagcc tgtaagtccc aactcaatac attttcccag ctctattgtc  1380
cctgttagag ttaatgacag agcacagtct gggttgtgta tgtcaccagc tgtgtacatc  1440
tgatagattg agaatgtgag gaggggagaa ggaccacttt gcattcacct ttctccttgt  1500
gtacctcaca tgacacctgg cacatagctc atgcatagta aggcttagta aattaaactc  1560
tttgtaccag atccttagga accatccaaa gctatcagag tcatatcaaa cctgatcagt  1620
tttaattatc tgcatttgaa aaagatgaag gaatatagac agtgcaatat tatatttcta  1680
tttgtgctta gggcacgttt agatagaagt ttttgttgat cagctttcct aatggtgaga  1740
tttggatcaa aatgcgtttg cttttcgtaa ggctgcccat ccgtaaaggg agctgtccct  1800
aaggagacgt caggccagaa gtgaaatttg gctgaaagtg atttgtttat ggattttaaa  1860
agttgactgt tgggcaatca tttgggggtta aggtttaatc attctttctc gtaatggtaa  1920
tgacagtaca ttggtctctt agaagacttt taaaatgaat ataaaatgct ttgttatgtg  1980
tggtggcctt tatctggcca gcatccttgt gacgtggaga gagcatggct ctcctcactt  2040
tctggatgaa cacacaaatg tgctgagaaa atgcatgatt ggttcaaagt tgcaaaatca  2100
cctcccatca agaatcattc ctataatatg tacagcctct ccaggagcca atggcttcat  2160
ccaaagagga tccactgagc tctgggttat acgaaggcag tatcctagag tgagagtctt  2220
cccttaggat gaaaagacct ttagaaggtg ataagaacca gaatccactc aatccccttg  2280
atgtaagaaa tgggaattgt gctcagttct ctctgcaggc cttgctggac ccaggttcag  2340
tcatgttctg tctctcaggt cccagtctga attcctgttc tgtgtgtgct ctgccaaaaa  2400
ctttgttcaa aagtttggga aagggctggg tgcagtggct caggacagta agcccagcac  2460
tttggaagac ctagagggag aatcgcttga gcccaggagt ttaaggctgc agcaagcggt  2520
aatcatgcca ctgcactcct gcctgggtga tagacggaca ccctgtttct aaaaaaaaa   2580
aaagtttggg aaagagatat tgcctcactg gagcaaattt acccagaatc caaagaaat   2640
gttgtgaatt gttagtacat tctcacccaa ggagtttcct ttaccaattt gtctcactag  2700
agctgaagag tctagagagc ttcctcacac cccactgtca gagggtaaac atcctgtgag  2760
tgtccctggc acaggtcctg gagatgctcc ctagacgggc tgcctcttcc cttcagtgac  2820
tgtgacctct tcagcctctg ccagcttctg gcctcttcta aggtgttttc agccattgct  2880
gtcaacttgc aaaatgtttg gaatgccttt ttgacctgga ttggtctttt gaactgactc  2940
cattgagggt cccagccagc tttcacagct ttttggggtg ctcttcatga aggtttata   3000
taatcgccga taccgaattt catcaaagca tgcagtagct tttaccttat ttcaagcatc  3060
cagtggggtt ggccagtcac ccccatagtg ttctttgaaa attgcaaatg tataccatca  3120
gctctccata tccacagatt cagccaacca tggatggaaa atatttgggg ggaaaaaaga  3180
tttcacgaag tgccagaaag caaaatttga atttgccaca cgtttcaaat actgtattga  3240
ctccacacaa atgaagtgat atgtgggcat cgtattagct acaataaata atctagaggt  3300
gatttaacgt atacaggacg gtgtgtgtag gttatatgca aacacctaca gcacattatg  3360
taagggactt gagcatccta ggattttggt atctgcaggg gatcctggat caatcccaca  3420
tggatactaa ggaacaacta catttagtta tctctctctg ccttagatat ctttctttc   3480
ttttcttttt tttttttttt ttgagacagt ctcgctcggt cgccagactg gagtgcaatg  3540
ctgcgatctc ggctcactgc aacctctgtc tcctgggttc aagcaattct cctgccttag  3600
cctcccgagt agctgggact acaggcacgc atcaccacgc ccagctaatt tttgtatttt  3660
tagtaaagat ggggtttcac catgttggcc aggatggtct cgatctcttg acctcgtgat  3720
```

2183

```
ctgcccgccg cagcctccca aagtgctggg attatgggcg tgagccactg cgcccagcct      3780
ctgccttata tttcatagga tgccatcatc ttcaaacttt ccccgaaggc ccaattttct      3840
agtctcctgt tgatttaatc ctctatctgt atcctctcct gatcgtccgt aggctgccca      3900
agctctggga tcgaaaaatt ggccactgtt aacctctcag cttttctctg attttttttt      3960
ttttttttttt ttgaactgga gcacacttta cttctgacta acatgtaaca tatatcctct      4020
gactctggac ttaatgggca aatctgcagg atcctcttct gtgagttggc ctgtctgtgg      4080
cctctctggc acagagatta atagaatggc cttaagttat cattccataa tcaaggggtt      4140
tggctttaaa tgcttttgct tttgtcctcg tcaggttaca acagcccttg tctttttcac      4200
taggtatcat tggtggactg accagtgtta taacttcgac agtggaaggt gtgaaaacag      4260
aaggggggtgt cagcggtttc atatctggcc ttggaaaagg gcttgttggc actgtaacca      4320
agccagtggc aggcgccctg gattttgcat cagaaacagc ccaggcggtg agagacacag      4380
ccacactcag cggccccagg tcagtggtgt gggaagaatg gctttgcag tttccagcct       4440
aggtctgctg cttctcctaa tccatactga tgtgtttaat tgtgcacttt cttagttata      4500
gggtttttaa ttcaaatact tgtaactgaa atttctgatc tgcctaatat aaaaagatga      4560
aaatgaggta cagaaacctg gcatgaattt tttcagataa atatatatat agcatatttt      4620
atatatgcta tatattttat atatgtatgt atatatagca tattatatat aagtatgtat      4680
aactatatta tgttattttt ctccattaga gaggtcagaa ttaggattaa actgttagaa      4740
gcttcttctg ttcaccaagc caactggatc cccacatgcc tatgaagaaa actgtcagat      4800
tg                                                                      4802
```

```
<210> 2137
<211> 274
<212> DNA
<213> Homo sapiens

<400> 2137
tttttttttga gatggagtct cgctctgtca cccaggctgg agtgcagtgg cgcgatgtcg      60
gctcactgca agctcagcct cccgggttca ggccgttctc ctgcctcagc ctcctgagta     120
gctgggacta caggtacctg caaccacgcc cggccaattt tttgtatttt tagtagagac     180
ggggtttcac tacgttagcc aggatggtct caatctcctg acctcgtgat ccgcccgcct     240
cagcctccca aagtgctggg attacaggcg tgag                                  274
```

```
<210> 2138
<211> 425
<212> DNA
<213> Homo sapiens

<400> 2138
tccccactgt tgttgttcac catgtgggtc tgttccttct taattttcct tccgcttgaa      60
agtatcagcc ccaaccccat aaagaaaagt gccacccccc atcccccag caggtcagca      120
gttctgctgt gggattgctg tctggccttg ataccagctg agactggaaa tcagggacag     180
cccatatggt tccaaacccc acagaaccca actgctttaa cgtagctgtt tgcttgaatg     240
gcctatttta gcctcccttt tccagagtga ctaattgggg attcttatca acaaagggta     300
taatgaatgt taagggccca gccaagctag actcgactta agcccagaag gattttgctg     360
ctgcttggat aatagatttt ccctgagtga attagtacgc cctttttagaa tgcctagggc     420
ctggc                                                                  425
```

```
<210> 2139
<211> 16037
<212> DNA
<213> Homo sapiens

<400> 2139
cgcggcgagc gcagcagcag ggccgggtcc tgcgcctcgg gggtcggcgt ccaggctcgg      60
agcgcggcac ggagacggcg gcagcgctgg actaggtggc aggtgagggc gtccccgcgc     120
acggctgggg taggggacgg gagtggcgag cttcaggtcc accggctgcc accgagtgat     180
gggaccggag gacaggagag gtcgctcagc caagagcccc ggggaggcgg tgccttctcg     240
gtggggtcag caacggtctc tgggggggtgc ctgggagcgg cagccggtct ccgccttggc     300
```

2184

```
ggcccacagc caccgcggac gcctccctcc cggatgtctc ctcgctgccc ttccctggcc    360
gaagccctcc cctgcagcct cctccccacc tgccggccct gtgttctcac tgctcttctc    420
tgctctggga tccgcaggat gacgtctgtc ctgcttcttc actgtccttt acagtcacca    480
gtctcggccg ggcgcagtgg ctcacgcctg taatcccagc actttgggag gccaaggcgg    540
tcggatcctt ggagatcagg agttcgagac cagtctggca aacgtggtga aaaccggtct    600
ctactaaaaa tacagaaatt agccgggcat ggtggcccac gcctgtaata atgtcagcta    660
tgtgctgagg caggaaaatc acttcaactc gggaggcaga ggttgcagtg agctgggatt    720
gcgccactgc actccagcct ggcagacaga gtgagacttc gtctcaaaac aaaaaaaaga    780
aaaacacaaa aaaaccacca ccaacaacaa caaaaaaata aagccaccag tctcggagtt    840
tcaaatctga gcactcttat ccatcttaat tctttcaata attcagctaa acgaatgggg    900
tcctgagaat ctgcagagcc aggctcagcg ctcgcctgca gagcctgcgg tctgtgggga    960
ccaccagcaa gatgaggaat caccttcggg aggaagggtc gtgctgggga gggtcgcgcc   1020
ggcggggtca agagaacctc ctccagggtg ggaatcagag cctccgggcc gcggtgtttg   1080
agggtgagtg gaattaatgc cgtgatggac atggggcctt ctaaggggga ccaacagtgt   1140
ttgtgaagag ttgactttgg gaggggttca ggatggccag aggtggaggc tgtgacctca   1200
gtgagtctgg atcaagggag ggggcaggtg ggtaagacac cgttttaaca aggtggcttt   1260
gagcggccac ctttgagggg cctaagggcc cctgggagat ttaggaggaa ggacaagagg   1320
attaagacac cgctttctga ggtgccgtgt ggctgtggcg tgggggtggc tgggggagtg   1380
ggttgtgttc attgtccaag gctctccagc gctttgcgtg gcgttttggg gagcacagat   1440
gaggtgtccc gacagtgggg agtggctcta gggagaccag aggctcggga gggggcctgg   1500
gcattagacc aggcacagaa tccgaagtgg gaagaaatgt gggcgtagag ggcaggcctt   1560
ggggatgggt gtggggggagg aggggggagat ggaaaggagt cagggaggtc tcccaggctc   1620
acctggagga gtcagggtct catttccaag tgcactggga actgcagcct gggggtgggg   1680
gttcatttgg tttcaggcct gtggccaaga gacccacccc ctcacattca cactttggtc   1740
tccagtggct tcacaggcac cacctccttg ttctcgcctg ttttactcct caccttgggc   1800
tgtttcttgc ctttccattc tggcgttctg cagggatcag atccttcctc tcacgcacaa   1860
tctacactca tggctttttgc tgggagtaat gagtaaagct cccaaataga tgtttctgag   1920
ttaggaagca cattaaaaac aaaacaaaac gaagcaaaac cacacaattg tccaagtccc   1980
actctgtgtt caagggtcac atgatgtgca gaagctggtg atgggcagga gctctgaatg   2040
gagttactgg gatgtcaggc cgcgtgggcc tggggcaggc tggctgactg ggagcagcct   2100
ggctccaccc cggctgtcca ggacgcactc acttgcctct atggatgaca gctccttgcc   2160
tcacagctgt ctgtctctgg gtcagattca gcatctcagt gtctttgtg tatcagctga   2220
atgtcaggga ggccacaggc tggtgcccag ttgaaaatct cacaaggact ctttgtaaat   2280
gcatgcaaga ataagaacag cattttcctc ctcctccctg accccattct cctcctcaga   2340
tgggacgatc tggtccttac ggaaagaatt ggagttcact gcttccagct ctgtgtgtgt   2400
gtgtgtgtgt gtgtgtgaga gagcgagctc tgcaggcgag ccagttctgt tgctattgct   2460
ggtttgagct gctgccatca ccacacttag ctaattacct taacatttgc acttaatttt   2520
tggccggaga ctaacagaaa ataaattttt ctccaattta aaatacttac gaactttaag   2580
aagaaacaa aaagtacgat tccaaaattg ccctgtagta agtaggtcag taacattcag   2640
ggagtgtgga aactgcattt ctctttattc ttcccttcca ggccctgcat catggaaact   2700
ctttctaatg caagtggtac ttttgccata cgccttttaa agatactgtg tcaagataac   2760
ccttcgcaca acgtgttctg ttctcctgtg agcatctcct ctgccctggc catggttctc   2820
ctaggggcaa agggaaacac cgcaacccag atgcccagg taagcttgcc cgtccgccag   2880
gagcagggac tggcctgggc tgcgtgttct gtcaccagct tcacactcac actccagagc   2940
cactgagaaa ggagggcagg actggggccc gagtgtgcac tggccgtttc agggaggcgg   3000
ggtccactgg ggaagaagtg gggcagggca gggaggcagg aactctgctc caccgagatt   3060
tatttggggg aaactttcct cggttaatcc cttggaaaag accatccaag ctgtcttgtc   3120
ctagcgcaga atctttcttt agaaatgac actgaaatta tttgaaacat aagttgcaaa   3180
gaactacctc tttttttggag caagagactt tgtaactaaa ctttcattgg taaggaaggt   3240
taatacctgt ttcaagttgt ttctgtacca acagctcagg gagggcatca acagaaattt   3300
gcaagaagga ttccagggca agtgcttcat tacagctgca cactgtgcag gtactgctca   3360
gctcagtctc accaacattc agagaacctg tggaaatgat tcaagatcag tgcttgtccc   3420
cagacctttg tggaaaggag aggagacata cacgtgagat gaaaccgaaa agcgccatcc   3480
ctgagtgcag gccgctggac acgccttcat catgggagtt gtcctttgtt caatatgact   3540
gtcttttct ttgatgacgc ttttcaatag tgaattactc attttaataa tttcccagct   3600
cattgtgtga agaagggagg gtttatgtgt aaaggctacc agccttaata ataagcacag   3660
agaggctctc taaaagatat atatatttgg aaatagggca ttgcaatgaa aatacgcatg   3720
ccatggcaag ctatgtgcac attcagggag gtgaaataac actaagattt ttaaaggaaa   3780
aagtaaagag gattacataa ttcctttgaa ataattattt ttggcaaaaa gatcaataac   3840
gaaggtgatg tcagtgtgag gttggatggg gagttcctgg gtagatgtcc ttgcacaagt   3900
attttgttgt gtaaggctgt gatggccttt gtgcaagagc gtaggttttt agagtccttt   3960
```

2185

```
gtgatagttg tgttatcagg cattcaagcg tgagaaccct ctcttcatgg ccttccctgt    4020
ctgtttgtca aaggtttttg gttttgtttt tttaatatta gtgactccat tttgattctg    4080
aagttcctta tgctgaaatc tgtatgatct ttttctatgt tttaggctca ctgataaacc    4140
cttatagaaa gctttttttga gagcaccaaa attgtctggg taccttctta ggtgtgagac    4200
tgagctctct ccatggctcc agtgttcaac tggatgcttg tgagacacca aacatactga    4260
gtacacgttg ctacctgtaa catgcaggga agcgttaatg gcagcagaaa tattttaaag    4320
aattatttat ttttccttca ttatataact ggtaaaagtc cactataaaa attttaaaa    4380
aataaaagta gaagggagga aaaaatccct atgaatccat caaacagaga caaccaccct    4440
tgataatgta aagcatcttc ctccagtcct atttcttttt ttttttttcg agacagagtc    4500
ttgctctgtc gcccaggctg gagtgcagtg gtgcgatctc agcttactgc aagctccacc    4560
ccccgagttc acaccattct tccacctcag cctcccgagt agctgggact acaggtgccc    4620
gcccccacgc ccagctaatt tttattttta gtagagacag ggtttcactg tgttagtcag    4680
gatggtctcg atcacctgac ctcgtgatcc acccgccttg gcctcccaaa gtgctgggat    4740
tacaggcgtg agccactgcg cccggcccta tttcctgatt ttcacttgac attttgtact    4800
ttggtgatta tatggtatct ttacttttat aaatgatttt tcagctaatg tgaggattcg    4860
gtgagacagt ccatgtaaag caagtgctca acatgtgttg gctatgaata gtaaatagtgg   4920
tgtcacagcc tcaggtgaaa ttggtcttag ctttttggttc tgttctattt gacagggttt    4980
ctcatcaaca gtctatgagc tgtctaaagt aaatttagta gcttcctctt ttttctatgt    5040
tatagaacag tgtgtattgc atgagaaata gaaattgctt gaatattaga aaaaaaaatc    5100
cctcaaaaga tcatctaagc ctttttagaa gtaattctct ctctccctct tattttttttt    5160
ttgttcattc attgtgactg atagattctg tttttttgttt gttttgtttg ttttgttttg    5220
tttttttgaga tagagtctct gctctgtcac ccaggctgga gtgcagtggt gctatctcag    5280
ctcactacga cctccaactc ccgagttcaa gttcacgtga ttctcctgcc tcagcctccc    5340
gagtagctgg gattacaggc acatgtcacc atgcctggct agtattcata ttttttgactg   5400
gcatttggta acttataatc tgtactttac tgaaaataat tatatagagt ttttgttttta   5460
acattccctt tgtttatatt gctgtaacct ctttttcaca tataactta ctttgggggtg    5520
cttttttctta catgtggtgg gtggctgtct gtttttgtatg tatgtgtgtt ttcttttaaa   5580
gaaccagctc ttggattcat tgatcatttt gtgtttgtcc caaaattcct tgggagtttt    5640
tctgtatctt ttctaacata atgattttaa agttttagca ttttattact ttcttggtaa    5700
tattgaaaac aatgctatgt tttaacttat ctttggccaa actctttggt ctaatatata    5760
tcacccatat tttgattatt ttctaaatca tatgtcatat acttatttag aagaatttgt    5820
ttgtttgttt gttttttgag aaggagtctt gctctgttgc ccaggctgga gtgcagtggt    5880
atgaccttgg ctcactgcaa cttccgcctc ctgggttcaa gtgattctcc tgcctcagcc    5940
tcccaagtag ctgggattac cagcaagcat caccacaccc ggctaatttt cgtattttta    6000
gtagagacag gatttcgcca tcttggccag gctggtcttg aactcctgac ctcaagtgat    6060
ctgcccgcct cggcccccca aagtgctggg attacaggca tgagccactg tgcccagcct    6120
agaagaatat tttaaatatt tgtttagaag aggattttttt gtgttttttt ttttttttttg   6180
acatggtctt gctctgtctc ctaggctgga gtgcagcagc ttgatcatag ctcactgcag    6240
cctcaaagtc ctgggctcca gcaatcctcc catctcagcc ttccaagtag ctgggaccac    6300
aggcacacac catcatgccc agctaagtgg agatgggatc ttgcaatgtt gcccaggcta    6360
gcctcaaact cttgggctca acaatcctc ctgccttggc ctccaaagt gctgggatta     6420
taggcatgag ccactgtgcc tggcctagaa aagtatttta attttactt tgaagagtta    6480
attatttaga aaagtgtttt cagtaatatt ttgtaggtga ttttcatttt gttggcattt    6540
tatttataat gctgattttt tgttactaca ttgaagttag agaatatgat ctatataatt    6600
ctgtatttca gaatgtattg ggatgttgag acttttctta tggcccaata tgtgtgatat    6660
attttgaaat atttaatata cacacatgta gtccctatag ggtacaattt taataactgt    6720
gttattgtct tattaatcac attgctcatg taatatcctt gtttcctttt gaggattctg    6780
atgattgtat ttccgtctat ttttccatgc attttttctg cttttaactt tttaactgca    6840
tcttttttttt tcactataaa ttttagaggt aattttccca ccacttaggg tacatttata    6900
ttttcctttt gatgcaagat tttatcacaa cctctttttct gagctttttct caccccttgtc  6960
attttttgtg tgttactgat ctttaaacaa gcgagatcca ttcaggcaga atggctacat    7020
cttttactcg cctgtttttct gtccctctc tctcctctcc ccagccatca aagagctatc    7080
ttgataactt ttaaaattat ctttcacaac aggcactgtc tttaaacaca gaggaagaca    7140
ttcatcgggc tttccagtcg cttctcactg aagtgaacaa ggctggcaca cagtacctgc    7200
tgagaacggc aacaggctc tttggagaga aaacttgtca gttcctctca gtaagttgaa    7260
tcaatagaac aataaaagtt gcattcaaca tacctggtga tatagagtct gggagaaaga    7320
ccctagagaa attgagaaat ttatgttaac caatttaaaa aaattgcact attttttttt    7380
ctaagatggg gtctcactac gttgcccagg ctggtcttaa actcctggtc tcaagtgatc    7440
ctcctgcctg ttgggattac agatgtgagc caccacgccc agcctaaact tctttttttt    7500
tttaaagact gcaattctat aattatacct tgcattagta ttgcaaaagt agtctctact    7560
tttcttgaaa ggtaaaattg aaaggtaaaa ttctcaagtt catttctggt tattcagggt    7620
```

2186

```
tcaatacata cctattcaca aactctgata ttttaacata tcttcatatg atcactttta      7680
aagagttatg tatattcttt ttattaaaaa aagataacat atttagaatt tttggaagtt      7740
tgctgacatt tgtatttagc aatgcagcct cactgaacat ttttctctcc aaagacgttt      7800
aaggaatcct gtcttcaatt ctaccatgct gagctgaagg agctttcctt tatcagagct      7860
gcagaagagt ccaggaaaca catcaacacc tgggtctcaa aaaagaccga aggtcagaat      7920
gacaagttat tgcaccttcc tcccaacccg tcctcctcct gcggctcttc ctattcctcc      7980
ttcccgcctc ttatatcctc tctcctcctc ctctccctcc tatccctcct ccctctcctc      8040
acccacctcc acctttccac tccgccccct ctaatttcac gggtgtttca gatggtcaga      8100
gtagtgttga ctggcagggc ctcctggcat actgaacctt gatggactca taaaggttct      8160
gatcagacat tcaggttttc agcaacagag atttactttt gtctattctc ccaggaccag      8220
agtagctgat acaaatgtca aaagagggcc agccacggtg gctctcgcct gtaatcccag      8280
caatttataa ggccgaagtg gacatatcac ttgaggtcag gagttcgaga ccagcatgac      8340
caacatgggt ggaccccccc ccgcccaaca tatttactaa aaatacaaaa attagccagg      8400
tgtggtggcc catgcctgta atcccagctg cttgggaggc tgagacatga gaatcacttg      8460
aacctgggag gcagaagttg tagtgagctg agatcatgcc actgaactcc agcctgtctc      8520
aaaaacaaaa accaaacaaa aaacacaaat gtcaaaagaa tctcaggcca ggtttccagt      8580
ttaataactt gcattaaaat atactctccc tggcctgtaa cattcacatg tcaggtgact      8640
ccattgtctc tgcgagaagg agattggtgg acagatcttg cctgaggtat acacttgggc      8700
tgcctcttcc taggttctgg gggacctcca tcaccattac ctttacctgc taaggtcact      8760
cctgactttt catgtcttcc acttaagctc ctttagtttg acttgataag cctacatttg      8820
attggttaac tgccgaccct ctctcagggc tgatcagttc cacagactga aaataccctc      8880
catttggggt tgaaccttat tcatctacat ttcagaaagt gacgtgttcc agtctaggcc      8940
tccaagacca atgatggtct gatgaaccat tcagactcct ctgcgccaat tatgcttagt      9000
accaccagga acatttccat ttctgtgaat aaatgagacg gtaaagaatg ggagacgttc      9060
ttcgcttaaa gtctcagcag ttgtttcccg cattcctgct tggagtattt accacggatg      9120
ctctcttcag gcagtgggtt agcagggatg ccctcagttc attgaaacag taccacttga      9180
tctccaggga aagaaggggg gatctttgtt tgcccacatc ctctttttcca gggatgccta      9240
gtgctttgtt gagggggattc agcaggaata tctcctccaa aagcttctgg aaactcccca      9300
tgtgcccaat gtcagctctt cccgctttga gccgtccatt ctggttgctt ctgacatgtc      9360
catgtatagt cacagaatgt tagaactggg tgtgatcatg aagggttgga tcaaacactc      9420
caattaacca tgtgagacaa acacccettc agcctatcac atttcctgct ggtcttgttc      9480
tccaacctgg tgtaattttt ctactttgta ccaacctgct ttcctcgagt gacttaggta      9540
tctttcacca tcctcaactt ggtggatgtt ctcaaggtgt cagtaatcat gaataccact      9600
catatgtgct gtttttattt ctctacataa caacccaaac tcagcaaagt tgaaaacaga      9660
agtttgcttc tcaactaatg atccaggatc atccaatgca tcaggttctt ataaaaagca      9720
actgaatgta gtctctactt ttcttgaaag gtaaaattga agagttgttg ccgggtagct      9780
caattgatgc agaaaccagg ctggttcttg tcaatgccat ctacttcaaa ggaaagtgga      9840
atgaaccgtt tgacgaaaca tacacaaggg aaatgccctt taaaataaac caggtggggg      9900
aagctttta aaatcctgct agtttgatga agaagttgaa tggaaagatt taactttgta       9960
aaagtgtaag tgacataagc gtaagccaaa aggaatttga aacttaaagt atttctgaat     10020
gaatttctta actcagtaga aaaaaacgga aggagtaaaa gatatttgct gcatatatat     10080
attatatata cgtatatata atatatatat atatatgtag tgttttatca ctgctcttaa     10140
ctgcctttga taatttctca taaaccattg ctgccaccta gttttggaaa ctaaagatct     10200
tcctataagc ccaatttact tggctagaaa gcaaaaaaaa aaaaaaaaaa gtgttaaggt     10260
agtgtgatat gtgggagtga gaggcagtat agggcagggt agagggagag aaggtgaaaa     10320
catgtgtctt taattagtta tttttaaaat taaagtaagt tttatttgaa ttgttaacta     10380
attatcatta attcagtatt acaggctttt aatattaaaa cttcatgaca aagaccttag     10440
ttttgacatt gaagtaaaac ttaattaagg caggcattag aataatttgc caaatcttcc     10500
agcccctaaa aagatactat tttaatgtaa ttaaaaaaca aaagcaggta accctcctgc     10560
attttttgta aggtgtactt taacttaaaa aaattagttc tctagttgca aagggtggga     10620
ggaggagaat tctaaccctg gttttagaac tatttttaatt tttataataa atgatctgta     10680
tcaattttt aaagtattac gttaataaat gtaatacttt gctgagcttc tatgtgctta     10740
tgcctcttct gtattttaaa aaagttattt cattagagta tcagaattga aaagattggg     10800
ttaaaataca ttactacata tgtaggtcgt tactctttct gagagagtgt atccatttat     10860
actccctgtc atgctgttgt ggaactataa gtttcatccc actttatgat ttttttttctc     10920
atatgttggg ttggataaat aggaaaaaca atacacattt ttttctaatt aaatcaaaac     10980
aaatttgtat ttaatttcat ttgattatat tgctttctta gatctatttg ctgagcacaa     11040
tttaaatgag aaacatcttt ctcctctgga aaatgtaggg tatcacattt tattttgcag     11100
aagaaaacct ttcccagggt ggtactgtgt ctgcttgcaa tgaagatagg aaggaactgg     11160
ttgacttttt ttttttttt ttttttttt tttttagtg ttaactgggg catgaatgtg     11220
gcggtttcca tcacaggtgc tgaaaacact cttggaggca actgcagctc ttttgaaagt     11280
```

2187

```
tttaattgcg tctttcaata atccttcccc caggaggagc aaaggccagt gcagatgatg 11340
tatcaggagg ccacgtttaa gctcgcccac gtgggcgagg tgcgcgcgca gctgctggag 11400
ctgccctacg ccaggaagga gctgagcctg ctggtgctgc tgcctgacga cggcgtggag 11460
ctcagcacgg taagacccgg gctgcgggaa gaacccaggg acacctttgc gggcagaact 11520
cgagtgccac ttccacctct catattcacc ttctgagttg gcgatgcggc agacgcacac 11580
tgtgcaggca cttggcgttg ggatcgaact tttgttcaag gctgactttt cccaatattg 11640
tctgcgtgat ctgccaaact acacatctca gtcctctgtt ttttcatcgc tagaaggagt 11700
gggcggcggt taaaatgcct tttaaaataa atcaggtagg aggaagctta taaaaatcct 11760
gctagtttga tgaatggcag acttttaact ctaaaagcat aaatgactgc tcggggttat 11820
tgcctcctag agttatgatg aggataaaat gtgggtaatt caggtaacaa gcttaccaca 11880
ttgcctggca actagtaaat gctctacaaa tgtgatccat tattacaatc atcattctta 11940
gcattatgct tttaaagtct aggaacctga aatagagaat gaggaagtct taactttgac 12000
ctaacaaggc tgggaggggg catccaggga ggtgtgaagt ccagttctca gagggtggga 12060
ccagaggcag cctctgaggg cacatccagg cactcggctt cctttcagca tggatctcca 12120
gggtgagaga gtcaaccatg gcaaatggca ggcagtggga ccccatgact taagaggtct 12180
gtgtgcgcag cagccattgg ctctccctct gcccaccttc ctgaaactat gctccggaaa 12240
ctatgcagaa tctctctggg gcagataatc ctctggtaac ctctctgctc cggaaactat 12300
gcagaatctc acctgggaca gataatcctg ttggagtggc tcacactgag agccctttcg 12360
tttccaatcc ttttcttttac tagcaatggt ttgttgtctt taaaaagact atgtttgaaa 12420
aaaaaacaca gtcgcctggg cattgacact tgtcacaata caagatgtct ctggagttgt 12480
tggataagga gaggacagcc acagccttcc tgcctctgac tgcttggtgt ctctcccct 12540
tgtcaaggaa gtggcacatg ggacatagga caagtaagag tgctcacaag cttctggcag 12600
atgaaggggc cactgatcct atgtgaacaa acaacaccta cgtgcaaggg gaggaaggga 12660
actgtgagtg cctgtgcgct tgtacatgtg cactgaagtc ggaatcttaa agtctaattc 12720
tggtctttca ggtggaaaaa agtctcactt ttgagaaact cacagcctgg accaagccag 12780
actgtatgaa gagtactgag gttgaagttc tccttccaaa atttaaacta caagaggatt 12840
atgacatgga atctgtgctt cggcatttgg gaattgttga tgccttccaa cagggcaagg 12900
ctgacttgtc ggcaatgtca gcggagagag acctgtgtct gtccaagttc gtgcacaaga 12960
gttttgtgga ggtgaatgaa gaaggcaccg aggcagcggc agcgtcgagc tgctttgtag 13020
ttgcagagtg ctgcatggaa tctggcccca ggttctgtgc tgaccaccct ttccttttct 13080
tcatcaggca caacagagcc aacagcattc tgttctgtgg caggttctca tcgccataaa 13140
gggtgcactt accgtgcact cggccatttc cctcttcctg tgtccccaga tccccactac 13200
agctccaaga ggatgggcct agaaagccaa gtgcaaagat gagggcagat tctttacctg 13260
tctgccctca tgatttgcca gcatgaattc atgatgctcc acactcgctt atgctactta 13320
atcagaatct tgagaaaata gaccataatg attccctgtt gtattaaaat tgcagtccaa 13380
atcccatagg atggcaagca aagttcttct agaattccac atgcaattca ctctggcgac 13440
cctgtgcttt cctgacactg cgaatacatt ccttaacccg ctgcctcagt ggtaataaat 13500
ggtgctagat attgctacta ttttatagat ttcctggtgc ttagccttat aaaaaaggtt 13560
gtaaaatgta catttatatt ttatctttt ttttttttt tttctgagac gcagtctggc 13620
tctctgtcgc ccaggctgga gtgcagtggc tcgatctcgg ctcactgcaa gctccgcctc 13680
ccgggttcac gccattctcc tgcctcagcc tcccgagtag ctgggactac aggcgcccgc 13740
caccacgccc ggctaatttt ttgtattttt agtagagacg gggtttcacc gtgttagcca 13800
ggatggtgtc gatctcctga cctcgtgatc cacccgcctc ggcctcccaa agtgctggga 13860
ttacaggctt gagccaccgc gcccggctat atttatctt ttatcttttt ctttgacatt 13920
taccaatcac caagcatgca ccaaacactg ctttaggcac tggggacaca aaggggacag 13980
agccatcctc ctttgacacc tggtcttcag ttctgtgccc aacgtatata gttttgacaa 14040
tgaccaggtt ggactgttta atgtctttca acttaccacg taatcctctt gtagggatca 14100
catctttctt tatgatattg tatttctcta cctctaacag taaaaattcc attcaaccct 14160
taaagctcac ttcaaattct tctttgagaa gtttttcctt tctccgcaac cagatgtaca 14220
tatttgaact ctctttgtac ttggagggca cttctttcgt ggtagttctt ttattttat 14280
taatctctgt atccttagat agtcctccaa caaccaaagg ttgggactct gtcttacata 14340
tctgggtgcc cctcatagtg cagtaataag taagttgatt atatacgagc tatgtaactt 14400
atattttta atggttggat atcactgagt tttttttttt aagaattttt ttattgaggt 14460
aaacttcaca taacataaaa ttaactattt taaagtgaga agttcagtgc cacttagtat 14520
tgttaacaat gttgcataac caccaccttt atttaaagtt ccaaaaaaaa tgttctcctc 14580
taaaaggaaa ccccatccca ttaagcagat actctccatt ccttccttcc tccagccccc 14640
agcaaccacc aatctgcttt ctgtctctat ggatttatct attcttgcta ttttatataa 14700
attgaattgt atgagacctt ttgtgtctgg cttctttcac ttagtacaag tttttgagat 14760
ttatttacat agtagcatgt atcaacactt cattttatg gccaaataaa attgtattat 14820
gtgtttatag cacaatttat ttatccactc attcattgat ggactttggg ttgtttctga 14880
cttttggcta ttgggaatag tgctgctatg aatgtttgtg tacctgtatt tgtttgaatg 14940
```

2188

```
cctattttgc attctcttgg gtatatatct aggagtggaa ctgctgggtc atatgttaat    15000
tctatgtttta gcttttttgag gaacagacaa actgttttcc acagcagttg aaccattcca    15060
cattcccacc agcaatgtat gagaattcca atttctgtcc acttcctcac caacacttat    15120
tattttcctt ttcctttttt taaaaaaaat aagttatggc catcttagtg ggtgtgaagt    15180
ggtatctcat tgtgtttttt atttgcattt cctatgtaat gagctagaaa ctaaagtaca    15240
aactagatgg gacatccagt ccctttgata gataatgctg agtaaaaaat gagatgaaag    15300
acatttgttt gttttttagaa cacgagtgac agtttgttaa aaagctttag aggaggaatg    15360
aaaacaaagt gaagtacact tagaaaaggg ccaagtggac atcttggatg tcaagtgcct    15420
agttcagtat ctttttttttt tttttttttt tttttgagac agtgcctcac tctgtcaccc    15480
aggctggagt gtagtggcat gatctgggct cactgcaacc tcctcctcct ggattcaagc    15540
aattctcttg cttcagcctc ccaagtagct gagactacaa gcacccacca tcacacccag    15600
ctaattttgt attttttcagt agagacgggg tttcgccaca ttggccgtgt tggtcttgaa    15660
ctcctggcct caagcgatcc gcctacctca gcctcccaaa gtgctaggat tacaggcata    15720
agccactgag cccagcccta gttcagtatc ttttatgtaa attacaaaca tctgcaacat    15780
tatgtatcat atgcagatac ttattgcatt tcttttatta gtggtgaaag tgttctatgc    15840
atttattggc tcttgaattt cctcatctat gaattgtcat tcatacacct actttctgc     15900
ttcgttttta catatgtctt tgcctattaa agatattatc cctctgtttt atattttctc    15960
tcattcttgt attgcctttt aaattttgtt atgatgtttc attaataaac agtgttttgt    16020
tttcctctat aatcaaa                                                    16037
```

<210> 2140
<211> 16107
<212> DNA
<213> Homo sapiens

<400> 2140

```
cgcggcgagc gcagcagcag ggccgggtcc tgcgcctcgg gggtcggcgt ccaggctcgg      60
agcgcggcac ggagacggcg gcagcgctgg actaggtggc aggtgagggc gtccccgcgc     120
acggctgggg taggggacgg gagtggcgag cttcaggtcc accggctgcc accgagtgat     180
gggaccggag gacaggagag gtcgctcagc caagagcccc ggggaggcgg tgccttctcg     240
gtggggtcag caacggtctc tggggggtgc ctgggagcgg cagccggtct ccgccttggc     300
ggcccacagc caccgcggac gcctccctcc cggatgtctc ctcgctgccc ttccctggcc     360
gaagccctcc cctgcagcct cctccccacc tgccggccct gtgttctcac tgctcttctc     420
tgctctggga tccgcaggat gacgtctgtc ctgcttcttc actgtccttt acagtcacca     480
gtctcggccg ggcgcagtgg ctcacgcctg taatcccagc actttgggag gccaaggcgg     540
tcggatcctt ggagatcagg agttcgagac cagtctggca aacgtggtga aaaccggtct     600
ctactaaaaa tacagaaatt agccgggcat ggtggcccac gcctgtaata atgtcagcta     660
tgtgctgagg caggaaaatc acttcaactc gggaggcaga ggttgcagtg agctgggatt     720
gcgccactgc actccagcct ggcagacaga gtgagacttc gtctcaaaac aaaaaaaaga     780
aaaacacaaa aaaccacca ccaacaacaa caaaaaaata aagccaccag tctcggagtt     840
tcaaatctga gcactcttat ccatcttaat tctttcaata attcagctaa acgaatgggg     900
tcctgagaat ctgcagagcc aggctcagcg ctcgcctgca gagcctgcgg tctgtgggga     960
ccaccagcaa gatgaggaat caccttcggg aggaagggtc gtgctgggga gggtcgcgcc    1020
ggcggggtca agagaacctc ctccagggtg ggaatcagag cctccgggcc gcggtgtttg    1080
agggtgagtg gaattaatgc cgtgatggac atgggggcctt ctaaggggga ccaacagtgt    1140
ttgtgaagag ttgactttgg gagggggttca ggatggccag aggtggaggc tgtgacctca    1200
gtgaggctgg atcaagggag ggggcaggtg ggtaagacac cgttttaaca aggtggcttt    1260
gagcggccac ctttgagggg cctaagggcc cctgggagat ttaggaggaa ggacaagagg    1320
attaagacac cgctttctga ggtgccgtgt ggctgtggcg tggggtggc tggggggagtg    1380
ggttgtgttc attgtccaag gctctccagc gctttgcgtg gcgttttggg gagcacagat    1440
gaggtgtccc gacagtgggg agtggctcta gggagaccag aggctcggga gggggcctgg    1500
gcattagacc aggcacagaa tccgaagtgg gaagaaatgt gggcgtagag ggcaggcctt    1560
ggggatgggt gtgggggagg aggggggagat ggaaggagt cagggaggtc tcccaggctc    1620
acctggagga gtcagggtct catttccaag tgcactggga actgcagcct gggggtgggg    1680
gttcatttgg tttcaggcct gtggccaaga gacccacccc ctcacattca cactttggtc    1740
tccagtggct tcacaggcac cacctccttg ttctcgcctg ttttactcct caccttgggc    1800
tgtttcttgc ctttccattc tggcgttctg cagggatcag atccttcctc tcacgcacaa    1860
tctacactca tggcttttgc tgggagtaat gagtaaagct cccaaataga tgtttctgag    1920
ttaggaagca cattaaaaac aaaacaaaac gaagcaaaac cacacaattg tccaagtccc    1980
actctgtgtt caagggtcac atgatgtgca gaagctggtg atgggcagga gctctgaatg    2040
```

```
gagttactgg gatgtcaggc cgcgtgggcc tggggcaggc tggctgactg ggagcagcct   2100
ggctccaccc cggctgtcca ggacgcactc acttgcctct atggatgaca gctccttgcc   2160
tcacagctgt ctgtctctgg gtcagattca gcatctcagt gtcttttgtg tatcagctga   2220
atgtcaggga ggccacaggc tggtgcccag ttgaaaatct cacaaggact ctttgtaaat   2280
gcatgcaaga ataagaacag cattttcctc ctcctccctg accccattct cctcctcaga   2340
tgggacgatc tggtccttac ggaaagaatt ggagttcact gcttccagct ctgtgtgtgt   2400
gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtgtgagaga gagcgagctc tgcaggcgag   2460
ccagttctgt tgctattgct ggtttgagct gctgccatca ccacacttag ctaattacct   2520
taacatttgc acttaatttt tggccggaga ctaacagaaa ataaattttt ctccaattta   2580
aaatacttac gaactttaag aagaaaacaa aaagtacgat tccaaaattg ccctgtagta   2640
agtaggtcag taacattcag ggagtgtgga aactgcattt ctctttattc ttcccttcca   2700
ggccctgcat catggaaact ctttctaatg caagtggtac ttttgccata cgcctttttaa   2760
agatactgtg tcaagataac ccttcgcaca acgtgttctg ttctcctgtg agcatctcct   2820
ctgccctggc catggttctc ctaggggcaa agggaaacac cgcaacccag atggcccagg   2880
taagcttgcc cgtccgccag gagcagggac tggcctgggc tgcgtgttct gtcaccagct   2940
tcacactcac actccagagc cactgagaaa ggagggcagg actggggccc gagtgtgcac   3000
tggccgtttc agggaggcgg ggtccactgg ggaagaagtg gggcagggca gggaggcagg   3060
aactctgctc caccgagatt tatttggggg aaactttcct cggttaatcc cttggaaaag   3120
accatccaag ctgtcttgtc ctagcgcaga atctttcttt agaaatgac actgaaatta   3180
tttgaaacat aagttgcaaa gaactacctc ttttttggag caagagactt tgtaactaaa   3240
ctttcattgg taaggaaggt taatacctgt ttcaagttgt ttctgtacca acagctcagg   3300
gagggcatca acagaaattt gcaagaagga ttccagggca agtgcttcat tacagctgca   3360
cactgtgcag gtactgctca gctcagtctc accaacattc agagaacctg tggaaatgat   3420
tcaagatcag tgcttgtccc cagacctttg tggaaaggag aggagacata cacgtgagat   3480
gaaaccgaaa agcgccatcc ctgagtgcag gccgctggac acgccttcat catgggagtt   3540
gtcctttgtt caatatgact gtcttttct ttgatgacgc ttttcaatag tgaattactc   3600
attttaataa tttcccagct cattgtgtga agaagggagg gtttatgtgt aaaggctacc   3660
agccttaata ataagcacag agaggctctc taaaagatat atatatttgg aaatagggca   3720
ttgcaatgaa aatacgcatg ccatggcaag ctatgtgcac attcagggag gtgaaataac   3780
actaagattt ttaaaggaaa aagtaaagag gattacataa ttcctttgaa ataattattt   3840
ttggcaaaaa gatcaataac gaaggtgatg tcagtgtgag gttggatggg gagttcctgg   3900
gtagatgtcc ttgcacaagt attttgttgt gtaaggctgt gatggccttt gtgcaagagc   3960
gtaggttttt agagtccttt gtgatagttg tgttatcagg cattcaagcg tgagaaccct   4020
ctcttcatgg ccttccctgt ctgtttgtca aaggttttg gttttgtttt tttaatatta   4080
gtgactccat tttgattctg aagttcctta tgctgaaatc tgtatgatct ttttctatgt   4140
tttaggctca ctgataaacc cttatagaaa gctttttttga gagcaccaaa attgtctggg   4200
taccttctta ggtgtgagac tgagctctct ccatggctcc agtgttcaac tggatgcttg   4260
tgagacacca aacatactga gtacacgttg ctacctgtaa catgcaggga agcgttaatg   4320
gcagcagaaa tatttttaaag aattatttat ttttccttca ttatataact ggtaaaagtc   4380
cactataaaa attttttaaaa aataaaagta gaagggagga aaaaatccct atgaatccat   4440
caaacagaga caaccaccct tgataatgta aagcatcttc ctccagtcct atttcttttt   4500
tttttttttcg agacagagtc ttgctctgtc gcccaggctg gagtgcagtg gtgcgatctc   4560
agcttactgc aagctccacc ccccgagttc acaccattct tccacctcag cctcccgagt   4620
agctgggact acaggtgccc gcccccacgc ccagctaatt tttatttttta gtagagacag   4680
ggtttcactg tgttagtcag gatggtctcg atcacctgac ctcgtgatcc acccgccttg   4740
gcctcccaaa gtgctgggat tacaggcgtg agccactgcg cccggcccta tttcctgatt   4800
ttcacttgac attttgtact ttggtgatta tatggtatct ttactttttat aaatgatttt   4860
tcagctaatg tgaggattcg gtgagacagt ccatgtaaag caagtgctca acatgtgttg   4920
gctatgaata gtaatagtgg tgtcacagcc tcaggtgaaa ctggtcttag cttttggttc   4980
tgttctattt gacagggttt ctcatcaaca gtctatgagc tgtctaaagt aaatttagta   5040
gcttcctctt ttttctatgt tatagaacag tgtgtattgc atgagaaata gaaattgctt   5100
gaatattaga aaaaaaaaatc cctcaaaaga tcatctaagc cttttttagaa gtaattctct   5160
ctctccctct tattttttttt ttgttcattc attgtgactg atagattctg tttttttgttt   5220
gttttgtttg ttttgttttg ttttttgaga tagagtatct gctctgtcac ccaggctgga   5280
gtgcagtggt gctatctcag ctcactacga cctccaactc ccgagttcaa gttcacgtga   5340
ttctcctgcc tcagcctccc gagtagctgg gattacaggc acatgtcacc atgcctggct   5400
agtattcata ttttgactg gcatttggta acttataatc tgtactttac tgaaaataat   5460
tatatagagt ttttgttttta acattccctt tgtttatatt gctgtaacct cttttttcaca   5520
tataacttta ctttggggtg ctttttttctta catgtggtgg gtggctgtct gttttgtatg   5580
tatgtgtgtt ttcttttaaa gaaccagctc ttggattcat tgatcatttt gtgtttgtcc   5640
caaaattcct tgggagtttt tctgtatctt ttctaacata atgattttaa agttttagca   5700
```

```
ttttattact ttcttggtaa tattgaaaac aatgctatgt tttaacttat ctttggccaa   5760
actctttggt ctaatatata tcacccatat tttgattatt ttctaaatca tatgtcatat   5820
acttatttag aagaatttgt ttgtttgttt gtttttgag aaggagtctt gctctgttgc   5880
ccaggctgga gtgcagtggt atgaccttgg ctcactgcaa cttccgcctc ctgggttcaa   5940
gtgattctcc tgcctcagcc tcccaagtag ctgggattac cagcaagcat caccacaccc   6000
ggctaatttt cgtattttta gtagagacag gatttcgcca tcttggccag gctggtcttg   6060
aactcctgac ctcaagtgat ctgcccgcct cggccccca aagtgctggg attacaggca   6120
tgagccactg tgcccagcct agaagaatat tttaaatatt tgtttagaag aggatttttt   6180
gtgttttttt ttttttttg acatggtctt gctctgtctc ctaggctgga gtgcagcagc   6240
ttgatcatag ctcactgcag cctcaaagtc ctgggctcca gcaatcctcc catctcagcc   6300
ttccaagtag ctgggaccac aggcacacac catcatgccc agctaagtgg agatgggatc   6360
ttgcaatgtt gcccaggcta gcctcaaact cttgggctca acaatcctc ctgccttggc   6420
ctccaaaagt gctgggatta taggcatgag ccactgtgcc tggcctagaa aagtatttta   6480
attttactt tgaagagtta attatttaga aaagtgtttt cagtaatatt ttgtaggtga   6540
ttttcatttt gttggcattt tatttataat gctgatttt tgttactaca ttgaagttag   6600
agaatatgat ctatataatt ctgtatttca gaatgtattg ggatgttgag acttttctta   6660
tggcccaata tgtgtgatat attttgaaat atttaatata cacacatgta gtccctatag   6720
ggtacaattt taataactgt gttattgtct tattaatcac attgctcatg taatatcctt   6780
gtttcctttt gaggattctg atgattgtat ttccgtctat ttttccatgc attttttctg   6840
cttttaactt tttaactgca tctttttttt tcactataaa ttttagaggt aattttccca   6900
ccacttaggg tacatttata ttttccttt gatgcaagat tttatcacaa cctcttttct   6960
gagcttttct caccccttgtc atttttgtg tgttactgat ctttaaacaa gcgagatcca   7020
ttcaggcaga atggctacat cttttactcg cctgttttct gtccctctc tctcctctcc   7080
ccagccatca aagagctatc ttgataactt ttaaaattat ctttcacaac aggcactgtc   7140
tttaaacaca gaggaagaca ttcatcgggc tttccagtcg cttctcactg aagtgaacaa   7200
ggctggcaca cagtacctgc tgagaacggc caacaggctc tttggagaga aaacttgtca   7260
gttcctctca gtaagttgaa tcaatagaac aataaaagtt gcattcaaca tacctggtga   7320
tatagagtct gggagaaaga ccctagagaa attgagaaat ttatgttaac caatttaaaa   7380
aaattgcact attttttttt ctaagatggg gtctcactac gttgcccagg ctggtcttaa   7440
actcctggtc tcaagtgatc ctcctgcctg ttgggattac agatgtgagc caccacgccc   7500
agcctaaact tctttttttt tttaaagact gcaattctat aattatacct tgcattagta   7560
ttgcaaaagt agtctctact tttcttgaaa ggtaaaattg aaaggtaaaa ttctcaagtt   7620
catttctggt tattcagggt tcaatacata cctattcaca aactctgata ttttaacata   7680
tcttcatatg atcactttta aagagttatg tatattcttt ttattaaaaa aagataacat   7740
atttagaatt tttggaagtt tgctgacatt tgtatttagc aatgcagcct cactgaacat   7800
ttttctctcc aaagacgttt aaggaatcct gtcttcaatt ctaccatgct gagctgaagg   7860
agctttcctt tatcagagct gcagaagagt ccaggaaaca catcaacacc tgggtctcaa   7920
aaaagaccga aggtcagaat gacaagttat tgcaccttcc tcccaacccg tcctcctcct   7980
gcggctcttc ctattcctcc ttcccgcctc ttatatcctc tctcctcctc ctctccctcc   8040
tatccctcct ccctctcctc acccacctcc acctctccac tccgcccct ctaatttcac   8100
gggtgtttca gatggtcaga gtagtgttga ctggcagggc ctcctggcat actgaacctt   8160
gatggactca taaaggttct gatcagacat tcaggttttc agcaacagag atttactttt   8220
gtctattctc ccaggaccag agtagctgat acaaatgtca aagagggcc agccacggtg   8280
gctctcgcct gtaatcccag caatttagaa ggccgaagtg gacatatcac ttgaggtcag   8340
gagttcgaga ccagcctgac caacatggtg gcacccccc cccccaacat ctctactaaa   8400
aatacaaaaa ttagccaggt gtggtggccc atgcctgtaa tcccagctgc ttgggaggct   8460
gagacatgag aatcacttga acctgggagg cagaagttgt agtgagctga gatcatgcca   8520
ctgaactcca gcctgtctca aaaacaaaaa acaaacaaaa aacaaatgt caaaagaatc   8580
tcaggccagg tttccagttt aataacttgc attaaaatat actctccctg gcctgtaaca   8640
ttcacatgtc aggtgactcc attgtctctg cgagaaggag attggtggac agatcttgcc   8700
tgaggtatac acttgggctg cctcttccta ggttctgggg gacctccatc accattacct   8760
ttacctgcta aggtcactcc tgactttca tgtcttccac ttaagctcct ttagtttgac   8820
ttgataagcc tacatttgat tggttaactg ccgaccctct ctcagggctg atcagttcca   8880
cagactgaaa ataccctcca tttggggttg aaccttattc atctacattt cagaaagtga   8940
cgtgttccag tctaggcctc caagaccaat gatggtctga tgaaccattc agactcctct   9000
gcgccaatta tgcttagtac caccaggaac atttccattt ctgtgaataa atgagacggt   9060
aaagaatggg agacgttctt cgcttaaagt ctcagcagtt gtttcccgca ttcctgcttg   9120
gagtatttac cacggatgct ctcttcaggc agtgggttag cagggatgcc ctcagttcat   9180
tgaaacagta ccacttgatc tccagggaaa gaaggggtga tctttgtttg cccacatcct   9240
cttttccagg gatgcctagt gctttgttga ggggattcag caggaatatc tcctccaaaa   9300
gcttctggaa actccccatg tgcccaatgt cagctcttcc cgctttgagc cgtccattct   9360
```

2191

```
ggttgcttct gacatgtcca tgtatagtca cagaatgtta gaactgggtg tgatcatgaa    9420
gggttggatc aaacactcca attaaccatg tgagacaaac acccccttcag cctatcacat   9480
ttcctgctgg tcttgttctc caacctggtg taattttct actttgtacc aacctgcttt     9540
cctcgagtga cttaggtatc tttcaccatc ctcaacttgg tggatgttct caaggtgtca   9600
gtaatcatga ataccactca tatgtgctgt ttttatttct ctacataaca acccaaactc   9660
agcaaagttg aaaacagaag tttgcttctc aactaatgat ccaggatcat ccaatgcatc   9720
aggttcttat aaaaagcaac tgaatgtagt ctctactttt cttgaaaggt aaaattgaag   9780
agttgttgcc gggtagctca attgatgcag aaaccaggct ggttcttgtc aatgccatct   9840
acttcaaagg aaagtggaat gaaccgtttg acgaaacata cacaagggaa atgccctta    9900
aaataaacca ggtgggggaa gctttttaaa atcctgctag tttgatgaag aagttgaatg   9960
gaaagattta actttgtaaa agtgtaagtg acataagcgt aagccaaaag gaatttgaaa   10020
cttaaagtat ttctgaatga atttcttaac tcagtagaaa aaacggaag gagtaaaaga    10080
tatttgctgc atatatatat tatatatacg tatatataat atatatatat tatatatacg   10140
tatatatata tattatatat atatacgtat atataatata tatatatata tgtagtgttt   10200
tatcactgct cttaactgcc tttgataatt tctcataaac cattgctgcc acctagtttt   10260
ggaaactaaa gatcttccta taagcccaat ttacttggct agaaagcaaa aaaaaaaaaa   10320
aaaagtgtta aggtagtgtg atatgtggga gtgagaggca gtatagggca gggtagaggg   10380
agagaaggtg aaaacatgtg tctttaatta gttattttta aaattaaagt aagttttgat   10440
ttgaattgtt aactaattat cattaattca gtatttacag ctttttaata ttaaaacttc   10500
atgacaaaga ccttagtttt gacattgaag taaaacttaa ttaaggcagg cattagaata   10560
atttgccaaa tcttccagcc cctaaaaaga tactatttta atgcaattaa aaaacaaaag   10620
caggtaaccc tcctgcattt tttgtaaggt gtactttaac ttaaaaaaat tagttctcta   10680
gttgcaaagg gtgggaggag gagaattcta accctggttt tagaactatt ttaattttta   10740
taataaatga tctgtatcaa ttttttaaag tattacatta ataaatgtaa tactttgctg   10800
agcttctatg tgcttatgcc tcttctgtat tttaaaaaag ttatttcatt agagtatcag   10860
aattgaaaag attgggttaa aatacattac tacatatgta ggtcgttact ctttctgaga   10920
gagtgtatcc atttatactc cctgtcatgc tgttgtggaa ctataagttt catcccactt   10980
tatgattttt tttctcatat gttgggttgg ataaatagga aaaacaatac acatttttt    11040
ctaattaaat caaaacaaat ttgtatttaa tttcatttga ttatattgct ttcttagatc   11100
tatttgctga gcacaattta aatgagaaac atctttctcc tctggaaaat gtagggtatc   11160
acattttatt ttgcagaaga aaacctttcc cagggtggta ctgtgtctgc ttgcaatgaa   11220
gataggaagg aactggttga cttttttttt ttttttttt tttttttagtg ttaactgggg  11280
catgaatgtg gcggtttcca tcacaggtgc tgaaaacact cttggaggca actgcagctc   11340
ttttgaaagt tttaattgcg tctttcaata atccttcccc caggaggagc aaaggccagt   11400
gcagatgatg tatcaggagg ccacgtttaa gctcgcccac gtgggcgagg tgcgcgcgca   11460
gctgctggag ctgccctacg ccaggaagga gctgagcctg ctggtgctgc tgcctgacga   11520
cggcgtggag ctcagcacgg taagacccgg gctgcgggaa gaacccaggg cacctttgc    11580
gggcagaact cgagtgccac ttccacctct catattcacc ttctgagttg gcgatgcggc   11640
agacgcacac tgtgcaggca cttggcgttg ggatcgaact tttgttcaag gctgactttt   11700
cccaatattg tctgcgtgat ctgccaaact acacatctca gtcctctgtt ttttcatcgc   11760
tagaaggagt gggcggcggt taaaatgcct tttaaaataa atcaggtagg aggaagctta   11820
taaaaatcct gctagtttga tgaatggcag acttttaact ctaaagcat aaatgactgc    11880
tcggggttat tgcctcctag agttatgatg aggataaaat gtgggtaatt caggtaacaa   11940
gcttaccaca ttgcctggca actagtaaat gctctacaaa tgtgatccat tattacaatc   12000
atcattctta gcattatgct tttaaagtct aggaacctga aatagagaat gaggaagtct   12060
taactttgac ctaacaaggc tgggaggggg catccaggga ggtgtgaagt ccagttctca   12120
gagggtggga ccagaggcag cctctgaggg cacatccagg cactcggctt cctttcagca   12180
tggatctcca gggtgagaga gtcaaccatg gcaaatggca ggcagtggga ccccatgact   12240
taagaggtct gtgtgcgcag cagccattgg ctctccctct gcccaccttc ctgaaactat   12300
gctccggaaa ctatgcagaa tctctctggg gcagataatc ctctggtaac ctctctgctc   12360
cggaaactat gcagaatctc acctgggaca gataatcctg ttggagtggc tcacactgag   12420
agccctttcg tttccaatcc tttctcttac tagcaatggt ttgttgtctt taaaaagact   12480
atgtttgaaa aaaaacaca gtcgcctggg cattgacact tgtcacaata caagatgtct    12540
ctggagttgt tggataagga gaggacagcc acagccttcc tgcctctgag tgcttggtgt   12600
ctctccccct tgtcaaggaa gtggcacatg ggacatagga caagtaagag tgctcacaag   12660
cttctggcag atgaaggggc cactgatcct atgtgaacaa acaacaccta cgtgcaaggg   12720
gaggaaggga actgtgagtg cctgtgcgct tgtacatgtg cactgaagtc ggaatcttaa   12780
agtctaattc tggtctttca ggtggaaaaa agtctcactt ttgagaaact cacagcctgg   12840
accaagccag actgtatgaa gagtactgag gttgaagttc tccttccaaa atttaaacta   12900
caagaggatt atgacatgga atctgtgctt cggcatttgg gaattgttga tgccttccaa   12960
cagggcaagg ctgacttgtc ggcaatgtca gcggagagag acctgtgtct gtccaagttc   13020
```

2192

```
gtgcacaaga gttttgtgga ggtgaatgaa gaaggcaccg aggcagcggc agcgtcgagc   13080
tgctttgtag ttgcagagtg ctgcatggaa tctggcccca ggttctgtgc tgaccaccct   13140
ttccttttct tcatcaggca caacagagcc aacagcattc tgttctgtgg caggttctca   13200
tcgccataaa gggtgcactt accgtgcact cggccatttc cctcttcctg tgtccccaga   13260
tccccactac agctccaaga ggatgggcct agaaagccaa gtgcaaagat gagggcagat   13320
tccttacctg tctgccctca tgatttgcca gcatgaattc atgatgctcc acactcgctt   13380
atgctactta atcagaatct tgagaaaata gaccataatg attccctgtt gtattaaaat   13440
tgcagtccca atcccatagg atggcaagca aagttcttct agaattccac atgcaattca   13500
ctctggcgac cctgtgcttt cctgacactg cgaatacatt ccttaacccg ctgcctcagt   13560
ggtaataaat ggtgctagat attgctacta ttttatagat ttcctggtgc ttagccttat   13620
aaaaaaggtt gtaaaatgta catttatatt ttatcttttt tttttttttt tttctgagac   13680
gcagtctggc tctctgtcgc ccaggctgga gtgcagtggc tcgatctctg ctcactgcaa   13740
gctccgcctc ccgggttcac gccattctcc tgcctcagcc tcccgagtag ctgggactac   13800
aggcgcccgc caccacgccc ggctaatttt ttgtattttt agtagagacg gggtttcacc   13860
gtgttagcca ggatggtgtc gatctcctga cctcgtgatc cacccgcctc agcctcccaa   13920
agtgctggga ttacaggctt gagccaccgc gcccggctat attttatctt ttatctttt   13980
ctttgacatt taccaatcac caagcatgca ccaaacactg ctttaggcac tggggacaca   14040
aaggggacag agccatcctc ctttgacacc tggtcttcag ttctgtgccc aacgtatata   14100
gttttgacaa tgaccaggtt ggactgttta atgtctttca acttaccacg taatcctctt   14160
gtagggatca catctttctt tatgatattg tatttctcta cctctaacag taaaaattcc   14220
attcaaccct taaagctcac ttcaaattct tctttgagaa gttttttcctt tctccgcaac   14280
cagatgtaca tatttgaact ctctttgtac ttggagggca cttcttttcgt ggtagttctt   14340
ttatttttat taatctctgt atccttagat agtcctccaa caaccaaagg ttgggactct   14400
gtcttacata tctgggtgcc cctcatagtg cagtaataag taagttgatt atatacgagc   14460
tatgtaactt atattttta atggttggat atcactgagt ttttttttt aagaattttt   14520
ttattgaggt aaacttcaca taacataaaa ttaactattt taaagtgaga agttcagtgc   14580
cacttagtat tgttaacaat gttgcataac caccacettt atttaaagtt ccaaaaaaaa   14640
tgttctcctc taaaaggaaa ccccatccca ttaagcagat actctccatt ccttccttcc   14700
tccagccccc agcaaccacc aatctgcttt ctgtctctat ggttttatct attcttgcta   14760
ttttatataa atcgaattgt atgagacctt ttgtgtctgg cttctttcac ttagtacaag   14820
tttttgagat ttatttacat agtagcatgt atcaacactt cattttttatg gccaaataaa   14880
attgtattat gtgtttatag cacaatttat ttatccactc attcattgat ggactttggg   14940
ttgtttctga cttttggcta ttgggaatag tgctgctatg aatgtttgtg tacctgtatt   15000
tgtttgaatg cctattttgc attctcttgg gtatatatct aggagtggaa ctgctgggtc   15060
atatgttaat tctatgttta gcttttttgag gaacagacaa actgttttcc acagcagttg   15120
aaccattcca cattcccacc agcaatgtat gagaattcca atttctgtcc acttcctcac   15180
caacacttat tattttcctt ttccttttt taaaaaaat aagttatggc catcttagtg   15240
ggtgtgaagt ggtatctcat tgtgttttt atttgcattt cctatgtaat gagctagaaa   15300
ctaaagtaca aactagatgg gacatccagt ccctttgata gataatgctg agtaaaaaat   15360
gagatgaaag acatttgttt gtttttagaa catgagtgac agtttgttaa aaagctttag   15420
aggaggaatg aaaacaaagt gaagtacact tagaaaaggg ccaagtggac atcttggatg   15480
tcaagtgcct agttcagtat ctttttttt tttttttttt tttttgagac agtgcctcac   15540
tctgtcaccc aggctggagt gtagtggcat gatctgggct cactgcaacc tcctcctcct   15600
ggattcaagc aattctcttg cttcagcctc ccaagtagct gagactacaa gcacccacca   15660
ccacacccgg ctaatttgt attttcagt agagacgggg tttcgccaca ttggccgtgt   15720
tggtcttgaa ctcctggcct caagcaatcc gcctacctca gcctcccaaa gtgctaggat   15780
tacaggcata agccactgag cccagcccta gttcagtatc ttttatgtaa attataaaca   15840
tctgcaacat tatgtatcat atgcagatac ttattgcatt tcttttatta gtggtgaaag   15900
tgttctatgc atttattggc tcttgaattt cctcatctat gaattgtcat tcacacacct   15960
acttttctgc ttcgttttta catatgtctt tgcctattaa agatattatc cctctgtttt   16020
atattttctc tcattcttgt attgccttt aaattttgtt atgatgtttc attaataaac   16080
agtgttttgt tttcctctat aatcaaa                                       16107
```

<210> 2141
<211> 466
<212> DNA
<213> Homo sapiens

<400> 2141
taaacctctt ctctttgtga attacccagc ctcatgtatg tggttttttt ttttatagca   60

2193

```
acacaaatga accaagacac agagggcaca atcatgacag aaattcttgt tccgctctct      120
gttttaattt agaggttgat aatatccagt attggtgagc atacgagaaa acaggcatcc      180
ttaccttgtg tgtgggaatg tggattaagg gtttttggaa ggaagtgggc agccttttca      240
ttttaaatgg acattctttt tgggccagca tctcactttt agatgtctga tctacataag      300
tatttgcata catgcttaga tatgctaagg tttttccctgt agtattttca aaggcatttt     360
tgcagggtaa tttaaaaaat cgtggtaaag aaaaacaaaa tttaccatct taagcatttc      420
taagtgtaca gttagcattg ttgaatagca aaaaggaaa gaaaaa                       466
```


```
<210> 2142
<211> 466
<212> DNA
<213> Homo sapiens

<400> 2142
taaacctctt ctctttgtga attacccagc ctcatgtatg tggttttttt ttttatagca      60
acacaaatga accaagacac agagggcaca atcatgacag aaattcttgt tccgctctct      120
gttttaattt agaggttgat aatatccagt attggtgagc atacgagaaa acaggcatcc      180
ttaccttgtg tgtgggaatg tggattaagg gtttttggaa ggaagtgggc agccttttca      240
ttttaaatgg acattctttt tgggccagca tctcactttt agatgtctga tctacataag      300
tatttgcata catgcttaga tatgctaagg tttttccctgt agtattttca aaggcatttt     360
tgcagggtaa tttaaaaaat cgtggtaaag aaaaacaaaa tttaccatct taagcatttc      420
taagtgtaca gttagcattg ttgaatagca aaaaggaaa gaaaaa                       466
```


```
<210> 2143
<211> 1669
<212> DNA
<213> Homo sapiens

<400> 2143
gcggctccct ctctccctct ggcccagtcc cttccgcttg tgtccgggaa gctgtgggcg      60
gtgatttaac atgactcact tggggggcata ggcgctatga agttcagtgg ctgggtgcca     120
ggtggcgcca atgacaccct ttttctcaga gcccgggctg aatggacacc tccctcaaag      180
ccttccagac ccagggttac ggccgttccc agagacatgt tcccgtgctg ctgggcacac      240
ctgcagaggg gagggaaggt cctgtgtttg ctggtgctgc tcgtcctctc acttcctacc      300
gagcatcatg ttgcaaacaa atgaccttgg caccaccgtt ttgcaaattg tcctttcttg      360
ggctttactt tttggtctat gtgagcaaaa tgaactgaag tcaaggtacg actcccaata      420
acctgctgtg ggatgagagg gcttttgtca tttatgcagt ctgattagtt atccacgccc      480
agagctacac tttctcgatg cttctcagct ctgactctca cagggccagg gagaaatttt      540
tgtgcccccct aaatcatgta gttggataca aaacattccc tggaggccta ccattctcaa     600
atccccgtgc agggctctgt ggggtgcaac atgaaactcg ctctaactcc ctacgtggag      660
gacagacaga cccatcctaa ctccaaagcc agacacaagg gacaaaggta ccaaaaaggt      720
gcaaggtgca agaatggacg acgctggtct tccaatttgc tggaatatct gtgcggctag      780
aatggtgtct tgttcagcat atatcagcat cttgcccttg ctctgtcctg cctggccaca      840
aaggacactc agacaacacc ggcctcataa atgctgcctg gagaaaagcc tagctaggta      900
cggagggtca gggtatttca gaaaagagaa actgcttcag ccaatgctca tgagatttac      960
cagggaatag caaacaagtc tagtgcaagc cagggttggg ggagtgggag ggtgattagc     1020
agagatcaat ctagaaagga ggtcaaggtt ctgtaggtgg ggaagaggg tgcttgtgta      1080
ttaaaacttg ttttccagca gtttggagat ttctcaaaga actaaaaata gaactaccat     1140
tcatcccagc aatcccatta ctaggtatat actcaaagga aaacaaattg ttctatcaaa     1200
aagacacctg tactcctatg tttatcgcag cactattcac aatagcaaag acatggagta     1260
aacccaggtg cccatcaacg gtgaactgga taaagaaaat gtagtacata tgctaccatg     1320
gaatactacg cagctgtaaa gaggaaagaa atcatgacct ttgcaacaac atggatacag     1380
ctggaggcca ttatgctaag tgaattaatg cagaaacaga aaactaaata tcacatgttc     1440
ttatttgtaa gcagaagcta aatattgggt gcacacaggc acaaagatgg gagcaataaa     1500
cactggggat tccacaaagg gagcaggcag agggaagggt tgaaaaacta cctatcaggt     1560
cctctgtgca ctacttgtga gacagaatca ttagaagccc aaacctcagc atcacacaat     1620
atacttatat aacaaacctg cacattgacc cctgaaccta aaattaaaa                  1669
```

<210> 2144
<211> 21010
<212> DNA
<213> Homo sapiens

<400> 2144
```
cggaagtgga aacggaaacc tttttaggga gtccaaggta cagtcgccgc gtgcggagct        60
tgttactggt tacttggtaa gctggtgtga ggggaacctg ggagggtcag ctccggtcct       120
gggtcgggag gggtgggggc cagaggattc agggccggag gttctggtgg gggcccagtg       180
ggcgggaccc gaggacggag gggccgggag gccgagaggg gcggggtcgc ggcggggcct       240
gagggacgga ggccgggata cttgggaaag gatccgccgg ccttgaactc ccgcctccgc       300
cgccctagg cctcatggcg gtccgagctt cgttcgagaa caactgtgag atcggctgct       360
ttgccaagct caccaacacc tactgtctgg tagcgatcgg aggctcagag aacttctaca       420
ggtgcggcgg gagccccggg gcttacggtg gcggggaggc gtgcgcagga gtcaagagct       480
ccggcagtgg gagggtgccg gcccctctgc cccgccacca ccgagtccat gtccctacag       540
tgtgttcgag ggcgagctct ccgataccat ccccgtggtg cacgcgtcta tcgccggctg       600
ccgcatcatc gggcgcatgt gtgtgggtaa ggcaggtgga ggacgccgag ggagggagtg       660
gtctccaagc accattaatt acaccccgg agggaacccg gagtgaccta gggattccca       720
gggtatcatc tgttatctct gggcactata gaatctctca ggccaagcgt caggagatcg       780
gggcaaccct ctagcaaagg ctgctggata atagtaataa caaataatgt aaagtgcttt       840
cactcctgtt ctcattcctt cgtcacaaag acactagaag gtaggagtta ctggcctaac       900
ttgactgatg aggaagttga gacttgacct aagtgactca gtaagttcca cacctagttc       960
ctagtgttgg agaaggattt ttctcttttt ttttttttt tgaggccaga ttttgctct       1020
ttcgcccagg ctggagtgca gtggcaagat cacagctgtc tgcatcctca acttcttagg      1080
ctcaagtgat cctcccacct cagcctacca ggtagctagg ccacaggca cgtgccacca      1140
cacctggcta attttacat ttttggtaga gacgcggcct ccctgtgttg cccagcctgg      1200
ccttgatctc ctgggctcaa gtgatcttct taccttggtc tcttaaagtg ttgggattat      1260
aggcgagagc cactataccc agccgaggat ttgtatctca tctctccctg ccactgactg      1320
ggcaaggtgc tttctctttc taagcatcca tttctgtctc tgtaaagatt agctaagata      1380
tgcggtcttc ctgctcagtt acgttggaat cttaaattcc ctttaccaca tctctaccct      1440
accttcctac ctgtcagcac tgttaattct ggtcgttggt cctttccttt ttattattat      1500
tattattttt ttttgagatg gagtttttcgc tcttgttgcc caggctggag tgcaatggca      1560
cgatcttggc tcactgcaac actctcttca agtgattctc ctgcctcagc ctcccaagta      1620
gctgggatta caggcgcatc ccgccacacc cggctaattt ttttgtattt ttagtagaga      1680
tggagtttca ccatgttggc caggctggtc ttgaactcct gacctcaggt gatcctccca      1740
cctcggcctc ccaaagtgct gggattacag gcgtgagcca ctgcgcccgg ccggtccttt      1800
cattaagctg gatctgtctt ccattactgc tgcccattgt ttcttagttc tgctcattga      1860
ggtcactttt agaagtctgt ttattttatt tttttacttt tactttaatt tttaaaaatc      1920
ttaagcctgc ttgggaggtc gaggcaggtg gatcacctga ggtcagcagt tcgagactaa      1980
cctgaccaac atggagaaac cccgtctcta ctaaaaatac agaaattagc cgggtgtggt      2040
ggcgcatacc tataatccca gctacttggg aggctgaggc gggagaattg cttgaaccct      2100
ggaggtggag ctcaccctgc ggtgagctga gattgtgcca ttgcatttca gcctgggcaa      2160
taagagtgaa actgtgtctc aaaaaaaaac aaaaaacaaa aaacaacaac aacaaaaact      2220
taagcctagt gacctcaaag tattttccta ttcagttaaa atactctgat ctctaaccat      2280
gcccttagga cttgaagcaa gttctgacaa caagggagat tttagcttag tccttgtgta      2340
ttttatgatg ggagtgacct ggaattcaga aattgattgg cgtgtatttg tagattgttc      2400
attcttgttg ctgtatggtg tgttttgtgt aagtatatca caacgtattc atccattcca      2460
tcgacagtgc atttgggcag ttttcacttt ggtctgttag gaatagtgct gctggccggg      2520
catggtggct cacgcctgta atcccagcac tctgggaggc cgaggcgggc ggatcacgag      2580
gtcgggagat cgagaccatc ctggttaaca cggtgaaacc ccgtgtctac taaaaataca      2640
aaaaattag ccaggtgtgg tggcgggtgc ctgtagtccc agctacttgg gaggttgagg      2700
caggagaatg gtgtgaaccg gggaggtaga acttgcagtg agccgagatt gtgccactgc      2760
actccagcct gggcaacaga acaagactcc gtctcaaaaa aaaaaaaaaa agtaatagtg      2820
ctgctatgtt tttttagtga acacatgtac atatttctac tgggtatatg atacctaaga      2880
gtggcatggc agagtcacag gttatgtgac tatttagtag tagttgcaga tgatgccaga      2940
taattatcta aagtgattga ccaacttaca ctcctgtctc agtatgagag ttcagttgct      3000
ccatatatct ttgccaacac ttggaattga tgacttgtaa aaattttagt cattctggct      3060
gggggcagtg gctcacacct gtaatcgtag cactttggga ggtcgaggtg gcggatcac      3120
ctgaggttag gagttcgaga ccagcctggc caacatagtg agaccccatc tctacaaaat      3180
cacaaaaagt tagccaggt tggtggcacg cacttgtaat tccagctact caggaggccg      3240
aagcaggaga atcacctgaa cccaggatgc agaagttgca gtgagctgag atcgcaccac      3300
```

2195

```
tgcgctccag  cctgggtgac  agagtgagac  tctgccttaa  aaaataataa  tctagccatt     3360
ctgctatgtg  tgtagtgtta  gctcagtttt  ttttgttttt  ttgttttttt  tttttggaga     3420
cggagtttcg  ctctgtcacc  caggttggag  tgcagtggcg  cgatctcggc  tcactgcaag     3480
ctccgcctcc  cgggttcacg  ccattctcct  gcctcagcct  cccgagtagc  tgggactaca     3540
ggcgcccgcc  accacgcctg  gctaattttt  tgtattttta  gtagagacgg  ggtttcaccg     3600
tgttagccag  gatgatctcg  atctcgatct  cctgaccttg  tgatctgccc  acctcagcct     3660
cccaaagtgc  tgggattaca  ggcgtgagcc  aacacgcccg  gcagctcagt  ttttaagtag     3720
caaaatatac  agctaatgcc  aagagctcag  cttccctccc  agttggtgat  ggtgaagtag     3780
gcaggattta  ttgggattcc  tgggtggtct  ctggcctgcc  ctgggtgttt  tccagatcag     3840
tgggttggag  ggctgggctc  tgggcctaaa  gctttcctgg  gaaagctgat  tgggctgggc     3900
tgagtggtat  cctcagcccc  tagggctcag  caggcatctt  gtgtattcac  cctctaattt     3960
gggtttctcc  agggaacagg  cacggtctcc  tggtacccaa  caataccacc  gaccaggagc     4020
tgcaacacat  tcgcaacagc  ctcccagaca  cagtgcagat  taggcgggtg  gaggagcggc     4080
tctcagcctt  gggcaatgtc  accacctgca  atgactacgt  ggccttggtc  cacccagact     4140
tggacagggt  gaggcagccc  aacttgaccc  aagagtcaca  gggccatcct  agtcagtggt     4200
tagccactgt  tctttcccaa  caggcagcaa  ttaggggtct  ctcctgtggt  ttttctatat     4260
gggctcttga  gtttcaggta  ctcattggaa  tagtgataac  agaggcctta  tcaagtgtca     4320
gaaagaagct  ggggagggta  tgaatccttc  atgattgggg  agattgaacc  atccagtcct     4380
gcatcctggg  ccaggatagg  tgattgactg  ttgaactttt  gactgtgggt  gagaggggaa     4440
agaagtgata  ttgagaccag  cctccagctg  ttcagggcat  gcatgaatat  tagggggcttc     4500
acagctgccc  ttgactctgc  tctaagctgt  acttcctcct  ttctctgggt  gaggctttca     4560
tatgaggtac  agaggagaaa  tgaggggctc  agggagccaa  ggcctggatg  cttctgggca     4620
tggagaacct  tggttctggg  gctgtaagtt  ctgagccctg  aacacaatat  ctttgattga     4680
caggagacag  aagaaattct  ggcagatgtg  ctcaaggtgg  aagtcttcag  acagacagtg     4740
gccgaccagg  tgctagtagg  aagctactgt  gtcttcagca  atcaggagg  gctggtgcat     4800
cccaagactt  caattgaaga  ccaggatgag  ctgtcctctc  ttcttcaagt  cccccttgtg     4860
gtaagcattc  ctgtcctctg  aaccccgtct  cccgaggcag  atcctttttgc  ctagtgtttg     4920
ggagtctggg  tcattacctg  ccacagtttg  ggactggggc  tgcaggtcag  ggaggagcag     4980
ggtttgggga  gagtcttcat  tgaggaggga  gagaatttgg  tgccgtgact  cacattgagc     5040
ccatcccttg  gcaggcgggg  actgtgaacc  gaggcagtga  ggtgattgct  gctgggatgg     5100
tggtgaatga  ctggtgtgcc  ttctgtggcc  tggacacaac  cagcacagag  ctgtcagtgg     5160
tggagagtgt  cttcaagctg  aatgaagccc  agcctagcac  cattgccacc  agcatgcggg     5220
attccctcat  tgacaggtac  ctggggcctc  tcctttcttc  tgctcagggt  tgggggttaa     5280
cttgcatttt  gagagtatgg  ggaaaagatg  tcatctagaa  tgggagccta  ccagtttgtt     5340
ctggtagctt  ctcgagtgtg  agagcatatc  tgtacactgc  tgagcagata  agagccagca     5400
tattcaaaaa  atatttcttg  agcatctgct  aatcctcatc  tttgtggttt  ttcagggcta     5460
ggatactaga  gcagtagctg  cttgagcagc  ttgtcagagc  tggtcccggg  atgagggctg     5520
aggcaggcac  ctcacttgag  agtgaggtgg  gctctgtgaa  acagctactg  accgtgcgct     5580
ttcctttctc  ttcagcctca  cctgagtcac  cttccaagtt  gttccatggg  ctcctggctc     5640
tggactgtgg  ccaaccttct  ccacattccg  cccaatctgt  accggatgct  ggcagggagg     5700
tggcagagag  ctcactggga  ctgaggggct  gggcacccaa  cccttttcca  cctgtgctta     5760
tcgcctggat  ctatcattac  tgcaaaaacc  tgctctgttg  tgctggctgg  caggccctgt     5820
ggctgctggc  tgagggttct  gctgtcctgt  gccaccccat  taaagtgcag  ttccctccgg     5880
gccattctga  atgtgatgtt  tggggccctc  agcctgtgta  caatccctgc  actctccagt     5940
tgttccagca  ttctgggaag  atagggtggg  atgaacacaa  cacacaccca  acccagttca     6000
ccacctccac  acacgccatt  cccttctcct  ctaccatcag  gatgtgaggc  ttcatcctgg     6060
ggcaagaaac  actctccact  acagttctcc  ttttttcttt  tttctttttg  aggcagtgtc     6120
tccctctgtc  acccaggctg  gagtgttgtg  acgcaaggat  ggctcactgt  agccttgacc     6180
tgttgggctc  aagcgatcct  ctcgcctcgt  ttattttttt  gtagaaacga  agtcactgtg     6240
ttgcccaggc  tggtttatac  tcctgaactc  aagcgaccca  ccgcctcggc  ctcccaaagt     6300
gttgggatta  caggcgtgag  ccacggcgcc  cggtctagtt  ctcacagttt  tcacccgact     6360
tctgcgccgg  tcttctctgg  ccttgaaagg  cagagagtcc  gttccgattt  tcccctgagc     6420
tgggcaagtc  ccctgtgaga  gctctggggc  atctggcttc  ggggcattct  ttgactaagg     6480
tggatggagg  ttgcaggtct  tttcctgggt  gggcgtgggg  cggggcagcg  ggttcccagc     6540
gtcctcctgg  cctgggcgtc  ttggaggctg  ttgggatgca  ttccgtcccc  ttgcgcgggg     6600
cggggccttg  aggcgctggg  gcgggattgg  cggggggacgg  tcgcggagcc  ccgccccgaa     6660
gcacagggtc  gagtcccttc  tttccgctcc  aacgcacgga  gggtgaggtc  ggtacgcggt     6720
ggtggcgtca  cggcgccagc  tcctcccgac  gccgaggtgg  gttccgggag  acccgcgggt     6780
ctggctgcga  gaggtgaggg  cagagccggg  gcgggccct  agcggggtgt  cccggcgacc     6840
cagaccttaa  agggcttctc  ttcttgcaga  ccatgggggc  tcagctaagc  ggcggccgcg     6900
gcgccccgga  gcctgcgcaa  acccagcccc  agccccagcc  ccagcctgcg  gcgccggagg     6960
```

2196

```
gcccggaaca gccccggcat ccgccccagc cccagcccca gccccagccc cagccccagc   7020
ccgagcccag cccgtggggg ccgctggacg acgtgcgctt cctcatcgcc tgcacttcct   7080
ggtactgacg gcgtcctccg caggatgtcg cccgtctgtc cgccgtcccc tgtggttctt   7140
gcctgccttg tctcctctcc ccacgtccct gcgtctctta caccccctcc cacccgaggc   7200
tccccagaga tagcagagaa ttcgaagagg tcgccgggga ctggaaagaa gtcccggcag   7260
ggccgccttc gcagtctaca ccccagcctg cttcccagcc tacacccaga cccagctcag   7320
accttcgtga ccaccccatc cctttctccg gctggctggg tcgggggcat ccctctctgt   7380
cgctggcttc cagaggcagg acaggcctcc tggtaagccc gcaaagttgc tgacctcctg   7440
acttcgtctg cctttattta atatctgtat tgctgataac cgtgctcttg actatgtgtc   7500
ccaggtcatg tcccaggtca tggagaagcc cgtgccacag tgaccctccc catactcctg   7560
gggggggctgc tctccatcct ggatcgtaag gaggcatcat caggctgtgt tcctggaacc   7620
ccaataaccc tgggcccccca gggccagcct gttgtagagg gaggctatct gaccgccggt   7680
ctggcagagg agatgggtgg gcagctccca gacaccccaa aggacccggt tctcttccca   7740
gagcgtccta aggttactct tggaacctga tctttgttcc ctcatcccag ggaaatgaca   7800
cactctgtat ttctgtttta tttagaaatg atttaaaaaa cattatacaa aggctgatca   7860
gtttaaaatg tgactgacac tgaaatgctg tgatgtcccc caggctgagg ggaagctagg   7920
ctctggggcc cccagtgctt tgccctctg tctgccctgt cctggggtga tggacaaaca    7980
gatgaccaca ggcaggagaa tctgagattg gaagcctcta ggctgagccc tctgggcctg   8040
gccccacatc cctcacctct gcagcctggg ctgcctgcct ccatctcctg ttcattctca   8100
gctggcctgc caggagccaa tggggagcct ggcgggaggc gggggtgcct agagctttca   8160
agaagtgaga gcaccaacct gaggagtgga cagggaccag gaagtggggg aagggaggcc   8220
aggaagaggt ggatacagga gacacttctc atctcatctc agaccctaga ggggtccaca   8280
gatgggggaca caagacccag ccagcccact ggatggcccg ggcaagtaac aacctctctg   8340
tgcttcatct gagggcacgg tgagagttac cgtcggcctc ccagggccta acacgagttt   8400
catgtgagtg gacaggtgtg agctaataaa gtgctttgca aagtataaaa cactgtacaa   8460
acctatgaat cactaatatc tccgcagttg ttccctgcct gtcccaggga gcctgccctt   8520
ggccaaaatg agaaaaaaca aggatgatga caggggacac agcggaccca catgggcacc   8580
tctgggacaa gagattttgc ttgagacagc tcccagggca gcaggagtcc ctgtctgtgc   8640
tacagggtaa gccgacccca atcccagaga ccacagggtc gggggcaagg cccatgcagg   8700
ctcagtgagc aggggtggca tccgagaccc ggccagcacg ctggagactg cctgacacct   8760
ttttggcttt ggcagagagc cagtgggcat tgatgaaccc attggccttg tctagggctc   8820
ctcagtgaca agcagggctg cctccgccgt actgtggagc aaggcaggcc aagccctagg   8880
aactcctgct ggagacagtg aagggcgggc cagtgaaggt caaaaaggga gcccctcag    8940
cttggggctg ctaccggtag gggtgtcctt ctaagagcag tgtgggaaga tgggcccagt   9000
gagcgaggtc agcaagggcc aagctctggg aaaacactgc ttccagccga gagattgagt   9060
cggcctcaga gtagctggag tcggcctcag agtagtgggg gcactgagca cttcagacgc   9120
cctggtcccc ttccgaagga ctcccaggct ctgccagtgt tggccctgca gccatctctg   9180
cctcacctaa ctggtgaggc tgagctccag gctgcaagtg acagactgga gcaaagctgg   9240
ggacagtgac aatagagggg agtggaggac ggtcacaaac tcggatcttc ctccagaaat   9300
ggggtcagct tctgccccag ctctgtagcc ataggagcag agctcagcta ctggggtgtc   9360
tgggcgctag agtggcctta gcagcacctt ggtccttgtc gcctggggga gggccgctat   9420
gctggcctca tcaccaagac agtcacctct agttcaccta aagcctcaag cagcctttgc   9480
aaaatgggac agtagtgaca ggacatttaa atattcacga tgtgacagct gggtccttgt   9540
cagacccagc tgggccacag ccctgcctgc agcatgtgac cctaaatcct gggtctccga   9600
agagaccctg acaagtggag caggtttcct gagggatctg ccgtctgcca gcagggaaac   9660
ccaggcttgt tgctcactgt gtcagaagca ggggtcctgt agccttggag gacagtgggg   9720
tgggggtagg gggacatctg accagcaggt gttggcaaaa ggggaccagg actggtggta   9780
tctcccggat gggggatgag agctagtgct ggcttcccac agagggtgct gggttccagc   9840
caggagtgga gctgtggtac ctcatggaca ccacaggatg ccgtgaccac aggggctcct   9900
cctggcatgg tccctgcctc cggatggagc ctggcctatt cccttaagta gggagtagtt   9960
tgcccaggac agaaggctgg cagctgggtg ccagacaccc accctgggc acagcccca    10020
taattccctg ccccacgctc agcctaggcc aatgcaccca ccacttcagc tgtacgaccc   10080
cagcctaggg ccctgctggc cctggtgagc actggccaga gctgcccctc agacctggt   10140
gaggaagggc ctggctggcc agaccaagtg gatagagagg gctctgggct gctcacaccc   10200
attcctggac tggccgctta tagtaggtga caggctgagg gcctgtcttg ttcttgaact   10260
ggaagatggt gtagaccagc accaggatgc agagggacag gatgcagggg atgaccacgg   10320
ccacggcgtt cacggagccc ggcacatcgt tgatggtcac catgatgtcc acgtcgtcct   10380
ggggcagccg ccgctccttc cgccgctcca cctccttctg gttgcagccc atccagtcac   10440
gcaggatgtt gcgcgggtag cctggctcca cgctcagttt ctggttgtca aacttccagt   10500
agtcccggcc cttgtagaaa taggtgtaat ctgcagaaat acagcccagc atcaccactc   10560
ccagacactt ccggcacctg ctctggggca gtgtgaaaag gagggcacag gcactgtggc   10620
```

```
gcagccaggg ctcttcagga tttgcctcca aatgaccttt ctgggccatt tctcacagct  14340
ttccaaggcg gggcctccgt ggccatcagg tgggccttct aagccctgtg gccgtccgta  14400
cacatcccag ccctgctcct ttattcagcc gttgtccctc tggaatgcct tccttgcttc  14460
tcactatctg tatctcaccc atctgaggtc tggcccgagt caagataact gtcatgaaac  14520
aacctagcac agtgctgggt acaggtgggg caccttagct ccctcccaca ccctcccccg  14580
acctccccag cttgagtgac ctcttccctc tgggttctta cagaactgac ccgatggcct  14640
cccatgaggt actgggtggt cttcaattgc ttgtcccaca ctctacttca tgtggacgaa  14700
gctggtcacc ccaccaatct cggcacatac agattctcag tctcactttc tgacttgatt  14760
tgtcagaggt cagtgtctcc gttagactag aggggccctc tgaggacatc tgcctcccac  14820
cccgcctctt ccagtttaga tgggaaaaag gaggtcccaa gaccttgggc agggaactgt  14880
cccacagcac agtctacatt acctttgaag aagacaaatc tcccatcggc cctttcatag  14940
gctgcgtcga tgcgggcagg caggcccttc cagaactgct cgatctgcat ggggtagccc  15000
tcctgcactc ggttattgcg cagacgccag aaccagcgat cctgggagga agcgggagag  15060
ggggagagag gtgtgtcagg ccctgcctcc gaacccagtg attgcagctg tggggcttag  15120
gtcccaacag cccagccctc caccgagact gtccattagc tgcttctgac ttttaaagcc  15180
ctgggaggaa gacaggatgc tcctgtaact gtcttcaatt cagcctcctg ctgactcttg  15240
ctgctgggtg gacaatgaga caaacagcag acaggcctgg tgtggaaaag gaggtgtgag  15300
ggagccggaa aggatgatgt tggggcctgg agtggccaca tggggcagt ggagcgtcac  15360
tgacatcagc cagactggtc ctcgggacag tgggaggctg gggtggtcac tgagcctggg  15420
ccgagcgccc tccatgaggc tggctccatc cagcagggcc aggatcatgg aagccaagtc  15480
atgggaattc cctcgagacc tgggcatgaa ttcacattcc tccatttata gctgcatgac  15540
ctaggcctca cctgcaagtg caggtaataa tggagaatca gatgagagat tctaggcaaa  15600
atgcccagac cagtacgggg cacacagtcc atgttgagta aatggcagct aaatagtccg  15660
agtccagtaa aaacgcctct tgtaactggt gcctcagtct tgggctggta cacaagcagt  15720
ctaggcaagg cctgtagcct ccaggcctca gtttctcttc ttttttttttt tttttagatg  15780
gagtctcgct ctgtcaccca ggctggagtg cagtggcgca atctcggctc actgcaagct  15840
ccgcctccca ggttcatgct attctcctgc ctcagcctcc tgagtagctg ggactacagg  15900
cgcccgccac cacacccggc taatttttta tattttttagt agagatgggg tttcaccatg  15960
ttagccagga tggtcttgat ctcctgacct tatgatccgc cctccttggc ctcccaaagt  16020
gttgggattg caaggcgtga gccactgcgc ccagcctcca ggcctcagtt ttcttatgtg  16080
taaatgggga tgataaaacc cggacctgcc tatgaacggt tcagttggat caaagtagaa  16140
tgagtgcaga agaagaagca tgatttgtaa aagatggtac aaaagctagt attttaaaag  16200
gtgttttaca aagcactttc acatccaggt ttttgacctt attttgactt tcatgtctct  16260
gttaagttga tctgagatat acggagtctt aagaaaggcc aggtgacttg cctagagcca  16320
ctcagtgaga agccagactg gggctgactc acgctgcccg attcctgcgc agtgctcagt  16380
gcgtgctggg agaactccac aaggggagcg aggcagcctc tttcaccatc ctgtgtgatg  16440
gagccaccct gcccagatcc ccttcagaga agggcttgtt gccccagtgg ccagcagtgt  16500
ggccagcagg cagttttcaa ctgtcagccc ctttggggat gttccctgct tcagagagct  16560
ctcctcagtc actggatgcc cttcctcatc cagtgattga atgaggtagg ggttataatg  16620
ttccagatat tttggaccca acgtaggctg agtgacaggc caccgtagcc ccagagctcc  16680
ctgcgggggt ggctgaggct gccatgggcc tctgttgcca cttaacctct ccctcttccc  16740
tgtcctgctt ccttctcccc ctcacaaatg ttgattctga aagtactctc taatcgaaat  16800
cctgcattcc agaccccacc tcagagttca ctccccgaga gcccaacctg caacacgtca  16860
agcagactgc caccctgtca gtccatggct gatggaggac agatgacaag atataccctg  16920
ggctgctgcc agtagcagcc cctcaagcct tggtagggtc tggagtcaga ctcagccacc  16980
actgacctag cccctactcc aagttgacca tcttcagagc cgggtactca ctggatcttc  17040
acacactctt tgttagagga atgactcccc caggtttcgg atggagaaac tgaggtccca  17100
agaagggtgg tcacagacca gaagccagct tccagcactt tctcccagca ttaaccccag  17160
gggaggtgag ggatcaccca tctttccccc tccctcttgg gaacagttga ttcacccagc  17220
agcactagga agagacccca tgccctggcc actgggctag ctcctgtcca ggccccattg  17280
taatcgaatc ccaaatcagg agccttcccc agctccatga tgtcggggag gaggaggaaa  17340
ggtcaggggc cagctgggtg gtgccaatcc attggcccta ccttaaagac aaacatctcg  17400
ccccggaaga gggccactgt gttgaagttg ccgtcacaga tgttgggttt ggtgcctggt  17460
gtggatggcc ggtccccgag gggcggccga gggggcctgg gctggcgctc gtgtttcctc  17520
tccgatggtg agtggatcct gcggacgggg agtgtaggga gtggccttgt gggctccaga  17580
ggctcggctg ggggtcctgg agagaggagc tgcatcttag agagggggca gccgtttccc  17640
gcctcccatt gccagtctca gcatcaccca ggcagctctg agacaagtct gtcccagttc  17700
agcctcctgt tccctctccc cagtttaact cccccagtct ttgagaaaat ggatgaaaat  17760
agccattaga atgggactct catctttcca tccccgaatc tggtatcttc tcttttctct  17820
ctcctgttac agagcaatca tgtccttcct tagggtcagc gctcttcctt aggccatacc  17880
ctctttgccc ccttcacacg cactggcccc acttcctcac ccccttcatt tattctcttt  17940
```

2199

```
cccacccccag  tgcagcttct  acccgtcacc  cactccaact  gctctgccaa  gatcatccaa  18000
tggttacttg  actcagactt  taataagcac  atgcatcatc  tggggatgtt  gctaaaatgc  18060
agatgagggc  tcagagggcc  tggggtgggg  cctgagagtt  tgcattcctt  cacactctca  18120
ggtgatgctg  atgctgctgg  tctgaagact  acattttgag  cagcaagatt  catagaaaca  18180
ctttcctgga  aacactctct  tggttgtcct  cctgcctcat  gggctgttct  ttctcagtct  18240
cctttgctgg  ctgcgtgtcc  tcatctgccc  tactctagag  gctggcgtgc  ccttgggtcc  18300
tcttctcttc  cgtctctaca  ttttcatcct  taggtcagtg  cttcttcact  tgggctgcat  18360
attaggatca  cctttgggag  cttttcaaac  tggatgttca  ggaagcacca  ggccagctct  18420
ccaacttttt  tttttttttt  ttttttttg  agaaggagtc  tcgctccgtc  ccccatgctg  18480
gagtgcagtg  gcgtgatcta  agctcactgc  aacctctgcc  tcccaggttc  aagtgattct  18540
cctgcctcat  cctcccaagt  agctgggact  acaggcacgt  accaccacac  ccaggtgatt  18600
tttttttttt  tttttttttt  ttttagcaga  gatggggttt  caccatgttg  accaggctgg  18660
tcttgaactc  ctgacctcaa  gtgatccacc  caccttggcc  tcccaaagtg  ctgggattac  18720
aggcgtgagc  caccacgccc  aatacccaac  tattaataaa  accaaatctc  tagagctgag  18780
ggctgggtgt  ctgtgttttt  ttattagaat  cccaaggtaa  ttccaaaggg  cagccaagtt  18840
gagaatcact  gctctaggtg  gtctcatcca  ggctcatggc  tttacagacc  tgcatcagag  18900
ctgtccagta  gagtgttctg  tgatgatgga  aatggtccat  atctgcatcg  ttcactacag  18960
tagcccctag  ccacagccac  atatggctac  tgaggtctta  agatgaatga  ctagttctta  19020
gtgtgactga  gacccactaa  agaactataa  ctgaaatgat  aattttaata  tatttttggg  19080
ggggtagaga  caggggtctc  actttgttgc  ccaggctggt  cttgaactcc  tggcctcaag  19140
caatcctccc  acctcggcct  cccaaagcgc  taggattaca  ggtttgagcc  accgcgcccg  19200
gcctaataaa  tataaattta  aatttcatta  ctatgaaatt  taatactagt  ttatttaata  19260
gtagtttatt  taatacatac  tagtgtatga  ctagtggtta  ctgtattgaa  caacaaagat  19320
cccaaataag  tattccagcc  tagatttttt  tttttttga  gacggagtct  cactctgtcg  19380
cctaggctgg  agtgcagtgg  tgtgatctca  gctcactgca  acctccgcct  cccgggttca  19440
agtgattctc  ctgcctcagc  ctcccaagta  gctgggatta  taggcgtgca  ccaccatgcc  19500
aggctaattt  tttgtatttt  tagtagagac  agggtttttgc  catgttggcc  aggctagact  19560
tgaactcctg  acctcaggta  atcgcccgcc  tcggcctcca  gcctagaatt  ttgagctgca  19620
gactggtgga  ccctattgct  tcacaattac  aaaagctgga  aaccctgggg  gcatccttga  19680
ccctccctcc  ttcctctcac  cccatgtctg  atctgtcagc  agatcctgtt  gttctacctt  19740
tggaatagct  tctgggaccc  acagccccca  cctggtctct  gctgctttac  ttgtggaggt  19800
cctgcctgtc  ctccagggct  ctggctgggt  catctcctcc  agagggagcc  ctccttctgt  19860
gctccgtagc  ctgtgggctg  tgggtgcctg  tgctgtcttg  acaagcattt  gctcaagtaa  19920
actggtctcc  ctagctcacc  tgacttgacc  agaacaagaa  cctcacatac  cagtgtgaac  19980
agaactggga  gagaggtgtg  taggaggcct  ttcatatctt  acctagatag  cagtagcttc  20040
tcatctttca  cctttctttt  cttttttttt  ttttttttt  tttttttttt  ttgagacgga  20100
gtctcgccct  gttgcccagg  ctggagtgca  gtggtgcgat  ctcagctcac  tgcaacctct  20160
gcctcctggg  ttcaagtgat  tctcctgcct  cagcctccca  agtagctgag  atttcacttg  20220
cccaccacca  cacctggcta  attttttgt  ttgtttgttt  taatattttt  ggtagagatg  20280
gggtttcacc  atgttggcca  gactggtctc  aaactcctga  cctcaagtga  cctgcctgcc  20340
tcagcctccc  aaagtgctgg  gatttcaggc  aagagccacc  acgcctggcc  ctcgtttttt  20400
cttttaaag  aacaaagctc  tggttatagt  ccccatcacg  ctgtatcacc  gttactcctg  20460
cagatgtgtg  aacctgcctg  gctagaggtg  gaatctatgg  gagcactcag  tcaccatctg  20520
gtgtgggagg  gagggagaga  agcatgaagg  gacggggaag  agtgtggaag  gggaggggta  20580
aaggagaggg  aatgggtggc  cctcacctca  cttttgtccc  tctcagttac  agctcagacc  20640
ctccctagg  tttcccaggt  gtgccagggg  aagccttgcc  ctctggccag  gcaaagccat  20700
tggaagtctg  taaaggtcac  acacagagaa  acagcagcag  tgctgatgat  agcaacgtcc  20760
ccctccctcg  tcccctgccc  catgacaggt  aggcagtcac  agcccagccc  cgaggaagga  20820
gcagtccccc  ctctccctgc  cacacaccat  agatcttctg  gatgccctgg  agatcgtcct  20880
ggggcagctt  gaagttgtgc  gtctccatgt  actggtagaa  gggcgccatg  atggcgctgg  20940
ggtcgctgga  gtgctccagt  cccagcgcgt  ggcccagctc  atgcacagcc  accaggaaga  21000
ggtcgttccc                                                              21010
```

<210> 2145
<211> 21024
<212> DNA
<213> Homo sapiens

<400> 2145
cggaagtgga aacggaaacc tttttaggga gtccaaggta cagtcgccgc gtgcggagct   60

2200

```
tgttactggt tacttggtaa gctggtgtga ggggaacctg ggagggtcag ctccggtcct    120
gggtcgggag gggtggggggc cagaggattc agggccggag gttctggtgg gggcccagtg    180
ggcgggaccc gaggacggag gggccgggag gccgagaggg gcggggtcgc ggcggggcct    240
gagggacgga ggccgggata cttgggaaag gatccgccgg ccttgaactc ccgcctccgc    300
cgcccctagg cctcatggcg gtccgagctt cgttcgagaa caactgtgag atcggctgct    360
ttgccaagct caccaacacc tactgtctgg tagcgatcgg aggctcagag aacttctaca    420
ggtgcggcgg gagccccggg gcttacggtg gcggggaggc gtgcgcagga gtcaagagct    480
ccggcagtgg gagggtgccg gcccctctgc cccgccacca ccgagtccat gtccctacag    540
tgtgttcgag ggcgagctct ccgataccat ccccgtggtg cacgcgtcta tcgccggctg    600
ccgcatcatc gggcgcatgt gtgtgggtaa ggcaggtgga ggacgccgag ggagggagtg    660
gtctccaagc accattaatt acacccccgg agggaacccg gagtgaccta gggattccca    720
gggtatcatc tgttatctct gggcactata gaatctctca ggccaagcgt caggagatcg    780
gggcaaccct ctagcaaagg ctgctggata atagtaataa caaataatgt aaagtgcttt    840
cactcctgtt ctcattcctt cgtcacaaag acactagaag gtaggagtta ctggcctaac    900
ttgactgatg aggaagttga gacttgacct aagtgactca gtaagttcca cacctagttc    960
ctagtgttgg agaaggattt ttctcttttt tttttttttt tgaggccaga ttttttgctct   1020
ttcgcccagg ctggagtgca gtggcaagat cacagctgtc tgcatcctca acttcttagg   1080
ctcaagtgat cctcccacct cagcctacca ggtagctagg gccacaggca cgtgccacca   1140
cacctggcta attttttacat ttttggtaga gacgcggcct ccctgtgttg cccagcctgg   1200
ccttgatctc ctgggctcaa gtgatcttct taccttggtc tcttaaagtg ttgggattat   1260
aggcgagagc cactataccc agccgaggat ttgtatctca tctctccctg ccactgactg   1320
ggcaaggtgc tttctctttc taagcatcca tttctgtctc tgtaaagatt agctaagata   1380
tgcggtcttc ctgctcagtt acgttggaat cttaaattcc ctttaccaca tctctaccct   1440
accttcctac ctgtcagcac tgttaattct ggtcgttggt cctttccttt ttattattat   1500
tattatttt tttttgagatg gagttttcgc tcttgttgcc caggctggag tgcaatggca   1560
cgatcttggc tcactgcaac actctcttca agtgattctc ctgcctcagc ctcccaagta   1620
gctgggatta caggcgcatc ccgccacacc cggctaattt ttttgtattt ttagtagaga   1680
tggagtttca ccatgttggc caggctggtc ttgaactcct gacctcaggt gatcctccca   1740
cctcggcctc ccaaagtgct gggattacag gcgtgagcca ctgcgcccgg ccggtccttt   1800
cattaagctg gatctgtctt ccattactgc tgcccattgt ttcttagttc tgctcattga   1860
ggtcactttt agaagtctgt ttatttatt ttttactttt tactttaatt tttaaaaatc   1920
ttaagcctgc ttgggaggtc gaggcaggtg gatcacctga ggtcagcagt tcgagactaa   1980
cctgaccaac atggagaaac cccgtctcta ctaaaaatac agaaattagc cgggtgtggt   2040
ggcgcatacc tataatccca gctacttggg aggctgaggc gggagaattg cttgaaccct   2100
ggaggtggag ctcaccctgc ggtgagctga gattgtgcca ttgcatttca gcctgggcaa   2160
taagagtgaa actgtgtctc aaaaaaaaac aaaaaacaaa aaacaacaac aacaaaaact   2220
taagcctagt gacctcaaag tattttccta ttcagttaaa atactctgat ctctaaccat   2280
gcccttagga cttgaagcaa gttctgacaa caaggagat tttagcttag tccttgtgta   2340
ttttatgatg ggagtgacct ggaattcaga aattgattgg cgtgtatttg tagattgttc   2400
attcttgttg ctgtatggtg tgttttgtgt aagtatatca caacgtattc atccattcca   2460
tcgacagtgc atttgggcag ttttcacttt ggtctgttag gaatagtgct gctggccggg   2520
catggtggct cacgcctgta atcccagcac tctgggaggc cgaggcgggc ggatcacgag   2580
gtcgggagat cgagaccatc ctggttaaca cggtgaaacc ccgtgtctac taaaaataca   2640
aaaaattag ccaggtgtgg tggcgggtgc ctgtagtccc agctacttgg gaggttgagg   2700
caggagaatg gtgtgaaccg gggaggtaga acttgcagtg agccgagatt gtgccactgc   2760
actccagcct gggcaacaga acaagactcc gtctcaaaaa aaaaaaaaa agtaatagtg   2820
ctgctatgtt tttttagtga acacatgtac atatttctac tgggtatatg atacctaaga   2880
gtggcatggc agagtcacag gttatgtgac tatttagtag tagttgcaga tgatgccaga   2940
taattatcta aagtgattga ccaacttaca ctcctgtctc agtatgagag ttcagttgct   3000
ccatatatct ttgccaacac ttggaattga tgacttgtaa aaattttagt cattctggct   3060
gggggcagtg gctcacacct gtaatcgtag cactttggga ggtcgaggtg ggcggatcac   3120
ctgaggttag gagttcgaga ccagcctggc caacatagtg agaccccatc tctacaaaat   3180
cacaaaaagt tagccaggtg tggtggcacg cacttgtaat tccagctact caggaggccg   3240
aagcaggaga atcacctgaa cccaggatgc agaagttgca gtgagctgag atcgcaccac   3300
tgcgctccag cctgggtgac agagtgagac tctgccttaa aaaataataa tctagccatt   3360
ctgctatgtg tgtagtgtta gctcagtttt ttttgttttt ttgttttttt ttttggaga   3420
cggagtttcg ctctgtcacc caggttggag tgcagtggcg cgatctcggc tcactgcaag   3480
ctccgcctcc cgggttcacg ccattctcct gcctcagcct cccgagtagc tgggactaca   3540
ggcgcccgcc accacgcctg gctaattttt tgtattttta gtagagacgg ggtttcaccg   3600
tgttagccag gatgatctcg atctcgatct cctgaccttg tgatctgccc acctcagcct   3660
cccaaagtgc tgggattaca ggcgtgagcc aacacgcccg gcagctcagt ttttaagtag   3720
```

2201

```
caaaatatac agctaatgcc aagagctcag cttccctccc agttggtgat ggtgaagtag   3780
gcaggattta ttgggattcc tgggtggtct ctggcctgcc ctgggtgttt tccagatcag   3840
tgggttggag ggctgggctc tgggcctaaa gctttcctgg gaaagctgat tgggctgggc   3900
tgagtggtat cctcagcccc tagggctcag caggcatctt gtgtattcac cctctaattt   3960
gggtttctcc agggaacagg cacggtctcc tggtacccaa caataccacc gaccaggagc   4020
tgcaacacat tcgcaacagc ctcccagaca cagtgcagat taggcgggtg gaggagcggc   4080
tctcagcctt gggcaatgtc accacctgca atgactacgt ggccttggtc cacccagact   4140
tggacagggt gaggcagccc aacttgaccc aagagtcaca gggccatcct agtcagtggt   4200
tagccactgt tctttcccaa caggcagcaa ttaggggtct ctcctgtggt ttttctatat   4260
gggctcttga gtttcaggta ctcattggaa tagtgataac agaggcctta tcaagtgtca   4320
gaaagaagct ggggagggta tgaatccttc atgattgggg agattgaacc atccagtcct   4380
gcatcctggg ccaggatagg tgattgactg ttgaactttt gactgtgggt gagaggggaa   4440
agaagtgata ttgagaccag cctccagctg ttcagggcat gcatgaatat tagggggcttc   4500
acagctgccc ttgactctgc tctaagctgt acttcctcct ttctctgggt gaggctttca   4560
tatgaggtac agaggagaaa tgaggggctc agggagccaa ggcctggatg cttctgggca   4620
tggagaacct tggttctggg gctgtaagtt ctgagccctg aacacaatat ctttgattga   4680
caggagacag aagaaattct ggcagatgtg ctcaaggtgg aagtcttcag acagacagtg   4740
gccgaccagg tgctagtagg aagctactgt gtcttcagca atcagggagg gctggtgcat   4800
cccaagactt caattgaaga ccaggatgag ctgtcctctc ttcttcaagt cccccttgtg   4860
gtaagcattc ctgtcctctg aaccccgtct cccgaggcag atcctttcgc ctagtgtttg   4920
ggagtctggg tcattacctg ccacagtttg ggactggggc tgcaggtcag ggaggagcag   4980
ggtttgggga gagtcttcat tgaggaggga gagaatttgg tgccgtgact cacattgagc   5040
ccatcccttg gcaggcgggg actgtgaacc gaggcagtga ggtgattgct gctgggatgg   5100
tggtgaatga ctggtgtgcc ttctgtggcc tggacacaac cagcacagag ctgtcagtgg   5160
tggagagtgt cttcaagctg aatgaagccc agcctagcac cattgccacc agcatgcggg   5220
attccctcat tgacaggtac ctggggcctc tcctttcttc tgctcagggt tgggggttaa   5280
cttgcatttt gagagtatgg ggaaaagatg tcatctagaa tgggagccta ccagtttgtt   5340
ctggtagctt ctcgagtgtg agagcatatc tgtacactgc tgagcagata agagccagca   5400
tattcaaaaa atatttcttg agcatctgct aatcctcatc tttgtggttt ttcagggcta   5460
ggatactaga gcagtagctg cttgagcagc ttgtcagagc tggtcccggg atgagggctg   5520
aggcaggcac ctcacttgag agtgaggtgg gctctgtgaa acagctactg accgtgcgct   5580
ttcctttctc ttcagcctca cctgagtcac cttccaagtt gttccatggg ctcctggctc   5640
tggactgtgg ccaaccttct ccacattccg cccaatctgt accggatgct ggcagggagg   5700
tggcagagag ctcactggga ctgaggggct gggcacccaa ccctttccca cctgtgctta   5760
tcgcctggat ctatcattac tgcaaaaacc tgctctgttg tgctggctgg caggccctgt   5820
ggctgctggc tgagggttct gctgtcctgt gccacccat taaagtgcag ttccctccgg   5880
gccattctga atgtgatgtt tggggccctc agcctgtgta caatccctgc actctccagt   5940
tgttccagca ttctgggaag atagggtggg atgaacacaa cacacaccca acccagttca   6000
ccacctccac acacgccatt cccttctcct ctaccatcag gatgtgaggc ttcatcctgg   6060
ggcaagaaac actctccact acagttctcc tttttttctt tttctttttg aggcagtgtc   6120
tccctctgtc acccaggctg gagtgttgtg acgcaaggat ggctcactgt agccttgacc   6180
tgttgggctc aagcgatcct ctcgcctcgt ttattttttt gtagaaacga agtcactgtg   6240
ttgcccaggc tggtttatac tcctgaactc aagcgaccca ccgcctcggc ctcccaaagt   6300
gttgggatta caggcgtgag ccacggcgcc cggtctagtt ctcacagttt tcacccgact   6360
tctgcgccgg tcttctctgg ccttgaaagg cagagagtcc gttccgattt tcccctgagc   6420
tgggcaagtc ccctgtgaga gctctggggc atctggcttc ggggcattct ttgactaagg   6480
tggatggagg ttgcaggtct tttcctgggt gggcgtgggg cggggcagcg ggttcccagc   6540
gtcctcctgg cctgggcgtc ttggaggctg ttggggtgca ttccgtcccc ttgcgcgggg   6600
cggggccttg aggcgctggg gcgggattgg cgggggacgg tcgcggagcc ccgccccgaa   6660
gcacagggtc gagtcccttc tttccgctcc aacgcacgga gggtgaggtt ggtacgcggt   6720
ggtggcgtca cggcgccagc tcctcccgac gccgaggtgg gttccgggag acccgcgggt   6780
ctggctgcga gaggtgaggg cagagccggg gcggggccct agcggggtgt cccggcgacc   6840
cagaccttaa agggcttctc ttcttgcaga ccatggggggc tcagctaagc ggcggccgcg   6900
gcgccccgga gcctgcgcaa acccagcccc agccccagcc ccagcctgcg gcgccggagg   6960
gcccggaaca gccccggcat ccgccccagc cccagcccca gccccagccc cagccccagc   7020
cccagcccag cccgagccca gcccgtgggg gccgctggac gacgtgcgct tcctcatcgc   7080
ctgcacttcc tggtactgac ggcgtcctcc gcaggatgtc gcccgtctgt ccgccgtccc   7140
ctgtggttct tgcctgcctt gtctcctctc cccacgtccc tgcgtctctt acacccctc    7200
ccacccgagg ctccccagag atagcagaga attcgaagag gtcgccgggg actggaaaga   7260
agtcccggca gggccgcctt cgcagtctac accccagcct gcttcccagc ctacacccag   7320
acccagctca gaccttcgtg accacccat cccttctcc ggctggctgg gtcggggggca    7380
```

2202

```
tccctctctg tcgctggctt ccagaggcag gacaggcctc ctggtaagcc cgcaaagttg   7440
ctgacctcct gacttcgtct gccttttatt aatatctgta ttgctgataa ccgtgctctt   7500
gactatgtgt cccaggtcat gtcccaggtc atggagaagc ccgtgccaca gtgaccctcc   7560
ccatactcct gggggggctg ctctccatcc tggatcgtaa ggaggcatca tcaggctgtg   7620
ttcctggaac cccaataacc ctgggccccc agggccagcc tgttgtagag ggaggctatc   7680
tgaccgccgg tctggcagag gagatgggtg ggcagctccc agacacccca aaggacccgg   7740
ttctcttccc agagcgtcct aaggttactc ttggaacctg atctttgttc cctcatccca   7800
gggaaatgac acactctgta tttctgtttt atttagaaat gatttaaaaa acattataca   7860
aaggctgatc agtttaaaat gtgactgaca ctgaaatgct gtgatgtccc ccaggctgag   7920
gggaagctag gctctggggc ccccagtgct ttgcccctct gtctgccctg tcctggggtg   7980
atggacaaac agatgaccac aggcaggaga atctgagatt ggaagcctct aggctgagcc   8040
ctctgggcct ggccccacat ccctcacctc tgcagcctgg gctgcctgcc tccatctcct   8100
gttcattctc agctggcctg ccaggagcca atggggagcc tggcgggagg cggggggtgcc   8160
tagagctttc aagaagtgag agcaccaacc tgaggagtgg acagggacca ggaagtgggg   8220
gaagggaggc caggaagagg tggatacagg agacacttct catctcatct cagaccctag   8280
aggggtccac agatggggac acaagaccca gccagcccac tggatggccc gggcaagtaa   8340
caacctctct gtgcttcatc tgagggcacg gtgagagtta ccgtcggcct cccagggcct   8400
aacacgagtt tcatgtgagt ggacaggtgt gagctaataa agtgctttgc aaagtataaa   8460
acactgtaca aacctatgaa tcactaatat ctccgcagtt gttccctgcc tgtcccaggg   8520
agcctgccct tggccaaaat gagaaaaaac aaggatgatg acagggaca cagcggaccc    8580
acatgggcac ctctgggaca agagattttg cttgagacag ctcccagggc agcaggagtc   8640
cctgtctgtg ctacagggta agccgacccc aatcccagag accacagggt cggggggcaag   8700
gcccatgcag gctcagtgag caggggtggc atccgagacc cggccagcac gctggagact   8760
gcctgacacc tttttggctt tggcagagag ccagtgggca ttgatgaacc cattggcctt   8820
gtctagggct cctcagtgac aagcaggget gcctccgccg tactgtggag caaggcaggc   8880
caagccctag gaactcctgc tggagacagt gaagggcggg ccagtgaagg tcaaaaaggg   8940
agccccctca gcttggggct gctaccggta ggggtgtcct tctaagagca gtgtgtgggaag  9000
atgggcccag tgagcgaggt cagcaagggc caagctctgg gaaaacactg cttccagccg   9060
agagattgag tcggcctcag agtagctgga gtcggcctca gagtagtggg ggcactgagc   9120
acttcagacg ccctggtccc cttccgaagg actcccaggc tctgccagtg ttggccctgc   9180
agccatctct gcctcaccta actggtgagg ctgagctcca ggctgcaagt gacagactgg   9240
agcaaagctg gggacagtga caatagaggg gagtggagga cggtcacaaa ctcggatctt   9300
cctccagaaa tggggtcagc ttctgcccca gctctgtagc cataggagca gagctcagct   9360
actggggtgt ctgggcgcta gagtggcctt agcagcacct tggtccttgt cgcctggggg   9420
agggccgcta tgctggcctc atcaccaaga cagtcacctc tagttcacct aaagcctcaa   9480
gcagcctttg caaaatggga cagtagtgac aggacattta aatattcacg atgtgacagc   9540
tgggtccttg tcagacccag ctgggccaca gccctgcctg cagcatgtga ccctaaatcc   9600
tgggtctccg aagagaccct gacaagtgga gcaggtttcc tgagggatct gccgtctgcc   9660
agcagggaaa cccaggcttg ttgctcactg tgtcagaagc aggggtcctg tagccttgga   9720
ggacagtggg gtgggggtag ggggacatct gaccagcagg tgttggcaaa aggggaccag   9780
gactggtggt atctcccgga tgggggatga gagctagtgc tggcttccca cagagggtgc   9840
tgggttccag ccaggagtgg agctgtggta cctcatggac accacaggat gccgtgacca   9900
caggggctcc tcctggcatg gtccctgcct ccggatggag cctggcctat tcccttaagt   9960
agggagtagt ttgcccagga cagaaggctg gcagctgggt gccagacacc caccctgggg  10020
cacagccccc ataattccct gccccacgct cagcctaggc caatgcaccc accacttcag  10080
ctgtacgacc ccagcctagg gccctgctgg ccctggtgag cactggccag agctgcccct  10140
cagaccctgg tgaggaaggg cctggctggc cagaccaagt ggatagagag ggctctgggc  10200
tgctcacacc cattcctgga ctggccgctt atagtaggtg acaggctgag ggcctgtctt  10260
gttcttgaac tggaagatgg tgtagaccag caccaggatg cagagggaca ggatgcaggg  10320
gatgaccacg gccacggcgt tcacggagcc cggcacatcg ttgatggtca ccatgatgtc  10380
cacgtcgtcc tggggcagcc gccgctcctt ccgccgctcc acctccttct ggttgcagcc  10440
catccagtca cgcaggatgt tgcgcgggta gcctggctcc acgctcagtt tctggttgtc  10500
aaacttccag tagtcccggc ccttgtagaa ataggtgtaa tctgcagaaa tacagcccag  10560
catcaccact cccagacact tccggcacct gctctgggc agtgtgaaaa ggagggcaca   10620
ggcactgtgg caagggaggc aaggtgggca cacctggagg tttggggtgc agtgcttggc  10680
tgagtcatgg agtaagaagc tgcagagggg gacacccggg acctggagtg gtccgcctgt  10740
catcctacgg gtgctaggaa accagagggg cttcagggag aactgggaca tggttcactt  10800
tgtgctgccc agacaggacc ccttgcacgc aagcctgggt cacagctctg tcacactgtg  10860
cgcacaggtc ccccttgccc cgctcatgtg ggctccatta agcctcagcc tggctcctgc  10920
ttgagccaag ggaggcaggg agcaagattt caccttgtgt tgacagcaag acctctctgc  10980
aattatggat tttttggct tggcacacat cacttcacaa cacagatgca ggacctttgg   11040
```

```
gagccttctg ggagagaggc tgggcagccc tgccaatcac tccctgggca accaccccag  11100
ggctcgagca acagcctgag cggcccagcc agtgggcaaa gcagcttgct taggccgtcc  11160
tcattggctg gcttcccacc gtggctaggg ctttcattgg tctcggtcct tgatgtcacc  11220
tgtctctgag gctccccaaa aagggagatc ttgtgcgtaa agcatcaggt atacaagaca  11280
gccaacaaat agcagctgtg gccattggct ttctcagcag tgaagcctcc tcagagactc  11340
cttcccagcc atctctaaca cggcccctc tagctcgttg ctctctccca gcatttattt  11400
cctttttttt ttttttttaag acaaggtctc actccattgc ctaggctgga gtacagtggt  11460
gcagttgtaa ctcactgcag cctcaaactc ctggtcttaa gcaatcctct ggcctcagcc  11520
tcccaagtag ctgggactac aggcacatgt caccacgccc agctaatttt tgtattttt  11580
ttttgtagag atggaatctc actatgttac tcaggctggt ctcgaactcc tggcctcaag  11640
tgatcctccc acctcagcct cccaaagtgc tgggagtctt tcccttatag cgtctgttgc  11700
catcttgctt tatgccccta gacttggacg tctgcaagtc ctgttgactg ctacgtcccc  11760
agctcccacc acacaagctg tctattatta tggagtgagt gaatgaatcc tgtcaatcca  11820
cataaactga aacccatgat gatgacaatg atgatgacga tagcagctaa aatatacagc  11880
atggatggtg tgctaggcat tatttctaag tatgctacat aatttgtctt ctttaatcct  11940
cacaaaacca ttatataaag gtaggtactg ttattatcat tttataaatg agaaaacaga  12000
aaacttatta aagatttgct cagattcata gtgagtggta ctatggtggt tacgaaccca  12060
gccagtccag ctctagagtc tgtgtttttg accatatcaa tggagatcta tttaacaaac  12120
actcctggag gcccactctg catctggcca ggctagcagc tcctcctgag aagctcctag  12180
gctggtgggg agacaggctg agtgtctgat ggcagtcgtg ggggctggtg gccagcatgg  12240
cttctagggag gagttcagga aacataaaaa gtttctctct tgatgcagtg gctcacactt  12300
gtaatcccag ggctttggga ggctgaggtg ggaggattgc ttgaggccag gagtttgaga  12360
ccagcctggc caacatagtg aaaccctgtt gctacaaaaa aatgtaaatt agccaggcac  12420
agtggcatgt gcctataatc ccaactactc gggaggctga tgaggcagga ggatcatttg  12480
agactaggag gttgaggctg cagtgagcta tgatcatgcc acagcattcc agcctaggcg  12540
acagagtgag accttatctc ttagaattta aaaaaaaatt ttttttgaag gttttctttc  12600
catcttcttg ccctcgagcc ctgtgaaaaa gtggctttga aacatgcatg cccatcattg  12660
cttttcagat tgggtaactc aaggcgtccc tggagtacac tgaggataag tgtttgagaa  12720
atgctgtctg aaggaatgaa gtcagtctat gacaacgtct ctctgccgtg aatcattcct  12780
gcagatgaaa aagtgtgact tggcagctgg taagtgaatt aatggaccac gtgaacatgg  12840
gtagatatga ggcagttgtc tgccaccagg tgttttttca aacctggacg cccatgggca  12900
ctgagtatgc ccgtgggcac tggtgaggac cacataaaac cggctcccca tgcccaccct  12960
ggcccggccc ttacgtacat ccttccttgc tgatgaaggc tccttgggga gcctgtggga  13020
tgcccttcca cacggtgatg ggcttagggt agccagggtc cgtggcccgc cgctcctcgc  13080
tgtagcgcca gtaccgctcg cctttgaaaa agtaggtctt gcccacaggt tcccagcgca  13140
gagctgtgtc aatgccttca cggggcaaac agctgcccag ctcccccagg ctgtgggggt  13200
acccaggctc caccgtcacc tccttaaaca cccaatactt gtcacctgtg gccaagagga  13260
gcccaggatc agcttcccca gtcactcagt gccgtttgcc catcttcagg gtgtcaggtg  13320
aaaacagtct gatgccctca gccccttggc ccagttagag ttgggaaggg cacgaagcct  13380
gaggccagtc acagatcctg gacaacttgc ctctgctgcc tgggctccga gtcccaccct  13440
cttttgttca tgtgacttgc tcctctctcc tctctggtga tctcagccac ttacatgact  13500
ttgcatatgc actaccactc cccaaacctg ctaccagtga cacccgactc tgaggctctc  13560
ccactggacc tgagcagcag agccagaaac cctgacctcc ctcggcctac cggcagctct  13620
gcattggctg gctccccaga gctcctcatc tgcaccacag aggggctccc tcctcatcac  13680
cttctgcctc ccaggtcccc aacagggagt cctagcctca ctgttgaccc tctctttcct  13740
tctcctctca gtattcagcc acttcttttt tttaagatgg agtttggctc ttgttgccca  13800
ggctggagtg caatggtgtg atctcagctc accacaacct ccacttcctg ggttcaagcg  13860
attctcctgc ctcagcctcc tgagtagcta ggattacagg cacgtgccac catgcttggc  13920
tagttttgt aatttagta gagacgtggt ttcaccatgt tggtcaggct ggtctcaaac  13980
tcctgacctc aggtgatctg ccagccttgg cctcccaaag tgctgggatt tcgggcgtga  14040
gccactgcgc ctggccgagt attcagccac ttctgaggcc ctctgactct cctggcagct  14100
gtccctgcc cttcagctgc acggctcctc cctcatttgg gcctcatgag tggcgcgctc  14160
cagaaccacc tcagaaatgg ctgccctgcc cctgccatgt ctgtcacctc ctgccctctg  14220
gctctctgct gctcggaaac attccatgaa tttccagcct tggcctaatg gatcaagacc  14280
acattctggc ctggcagcca gggctcttca ggatttgcct ccaaatgacc tttctgggcc  14340
atttctcaca gctttccaag gcggggcctc cgtggccatc aggtgggcct tctaagccct  14400
gtggccgtcc gtacacatcc cagccctgct cctttattca gccgttgtcc ctctggaatg  14460
ccttccttgc ttctcactat ctgtatctca cccatctgag gtctggcccg agtcaagata  14520
actgtcatga aacaacctag cacagtgctg ggtacagggt gggcacctta gctccctccc  14580
acaccctccc ccgacctccc cagcttgagt gacctcttcc ctctgggttc ttacagaact  14640
gacccgatgg cctcccatga ggtactgggt ggtcttcaat tgcttgtccc acactctact  14700
```

2204

```
tcatgtggac gaagctggtc acccccaccaa tctcggcaca tacagattct cagtctcact   14760
ttctgacttg atttgtcaga ggtcagtgtc tccgttagac tagaggggcc ctctgaggac   14820
atctgcctcc cacccccgcct cttccagttt agatgggaaa aaggaggtcc caagaccttg   14880
ggcagggaac tgtcccacag cacagtctac attacctttg aagaagacaa atctcccatc   14940
ggcccttttca taggctgcgt cgatgcgggc aggcaggccc ttccagaact gctcgatctg   15000
catggggtag ccctcctgca ctcggttatt gcgcagacgc cagaaccagc gatcctggga   15060
ggaagcggga gaggggggaga gaggtgtgtc aggccctgcc tccgacccca gtgattgcag   15120
ctgtgggggct taggtcccaa cagcccagcc ctccaccgag actgtccatt agctgcttct   15180
gactttttaaa gccctgggag gaagacagga tgctcctgta actgtcttca attcagcctc   15240
ctgctgactc ttgctgctgg gtggacaatg agacaaacag cagacaggcc tggtgtggaa   15300
aaggaggtgt gagggagccg gaaaggatga tgttggggcc tggagtggcc acatgggggc   15360
agtggagcgt cactaacatc agccagactg gtcctcggga cagtgggagg ctggggtggt   15420
cactgagcct gggccgagcg ccctccatga ggctggctcc atccagcagg gccaggatca   15480
tggaagccaa gtcatgggaa ttccctcgag acctgggcat gaattcacat tcctccattt   15540
atagctgcat gacctaggcc tcacctgcaa gtgcaggtaa taatggagaa tcagatgaga   15600
gattctaggc aaaatgccca gaccagtacg gggcacacag tccatgttga gtaaatggca   15660
gctaaatagt ccgagtccag taaaaacgcc tcttgtaact ggtgcctcag tcttgggctg   15720
gtacacaagc agtctaggca aggcctgtag cctccaggcc tcagttttct ttcttttttt   15780
tttttttttag atggagtctc gctctgtcac ccaggctgga gtgcagtggc gcaatctcgg   15840
ctcactgcaa gctccgcctc ccaggttcat gctattctcc tgcctcagcc tcctgagtag   15900
ctgggactac aggcgcccgc caccacaccc ggctaatttt ttatattttt agtagagatg   15960
gggtttcacc atgttagcca ggatggtctt gatctcctga ccttatgatc cgccctcctt   16020
ggcctcccaa agtgttggga ttgcaaggcg tgagccactg cgcccagcct ccaggcctca   16080
gttttcttat gtgtaaatgg ggatgataaa acccggacct gcctatgaac ggttcagttg   16140
gatcaaagta gaatgagtgc agaagaagaa gcatgatttg taaaagatgg tacaaaagct   16200
agtattttaa aaggtgtttt acaaagcact ttcacatcca ggttttttgac cttattttga   16260
cttttcatgtc tctgttaagt tgatctgaga tatacggagt cttaagaaag gccaggtgac   16320
ttgcctagag ccactcagtg agaagccaga ctggggctga ctcacgctgc ccgattcctg   16380
cgcagtgctc agtgcgtgct gggagaactc cacaagggga gcgaggcagc ctctttcacc   16440
atcctgtgtg atggagccac cctgcccaga tcccccttcag agaagggctt gttgccccag   16500
tggccagcag tgtggccagc aggcagtttt caactgtcag cccctttggg gatgttccct   16560
gcttcagaga gctctcctca gtcactggat gcccttcctc atccagtgat tgaatgaggt   16620
aggggttata atgttccaga tattttggac ccaacgtagg ctgagtgaca ggccaccgta   16680
gccccagagc tccctgcggg ggtggctgag gctgccatgg gcctctgttg ccacttaacc   16740
tctccctctt ccctgtcctg cttccttctc cccctcacaa atgttgattc tgaaagtact   16800
ctctaatcga aatcctgcat tccagacccc acctcagagt tcactccccg agagcccaac   16860
ctgcaacacg tcaagcagac tgccaccctg tcagtccatg gctgatggag gacagatgac   16920
aagatatacc ctgggctgct gccagtagca gcccctcaag ccttggtagg gtctggagtc   16980
agactcagcc gccactgacc tagcccctac tccaagttga ccatcttcag agccgggtac   17040
tcactggatc ttcacacact ctttgttaga ggaatgactc ccccaggttt cggatggaga   17100
aactgaggtc ccaagaaggg tggtcacaga ccagaagcca gcttccagca ctttctccca   17160
gcgttaaccc caggggaggt gagggatcac ccatctttcc ccctccctct tgggaacagt   17220
tgattcaccc agcagcacta ggaagagacc ccatgccctg gccactgggc tagctcctgt   17280
ccaggcccca ttgtaatcga atcccaaatc aggagccttc cccagctcca tgatgtcggg   17340
gaggaggagg aaaggtcagg ggccagctgg gtggtgccaa tccattggcc ctaccttaaa   17400
gacaaacatc tcgccccgga agagggccac tgtgttgaag ttgccgtcac agatgttggg   17460
tttggtgcct ggtgtggatg gccggtcccc gaggggcggc cgagggggcc tgggctggcg   17520
ctcgtgtttc ctctccgatg gtgagtggat cctgcggacg gggagtgtag ggagtggcct   17580
tgtgggctcc agaggctcgg ctgggggtcc tggagagagg agctgcatct tagagagggg   17640
gcagccgttt cccgcctccc attgccagtc tcagcatcac ccaggcagct ctgagacaag   17700
tctgtcccag ttcagcctcc tgttccctct ccccagttta actcccccag tctttgagaa   17760
aatggatgaa aatagccatt agaatgggac tctcatcttt ccatccccga atctggtatc   17820
ttctcttttc tctcctgt tacagagcaa tcatgtcctt ccttagggtc agcgctcttc   17880
cttaggccat accctctttg ccccctttcac acgcactggc cccacttcct cacccccttc   17940
atttattctc tttcccaccc cagtgcagct tctacccgtc acccactcca actgctctgc   18000
caagatcatc caatggttac ttgactcaga ctttaataag cacatgcatc atctggggat   18060
gttgctaaaa tgcagatgag ggctcagagg gcctggggtg gggcctgaga gtttgcattc   18120
cttcacactc tcaggtgatg ctgatgctgc tggtctgaag actacatttt gagcagcaag   18180
attcatagaa acactttcct ggaaacactc tcttggttgt cctcctgcct catgggctgt   18240
tctttctcag tctcctttgc tggctgcgtg tcctcatctg ccctactcta gaggctggcg   18300
tgcccttggg tcctcttctc ttccgtctct acattttcat ccttaggtca gtgcttcttc   18360
```

2205

```
acttgggctg catattagga tcacctttgg gagcttttca aactggatgt tcaggaagca    18420
ccaggccagc tctccaactt tttttttttt tttttttttt ttgagaagga gtctcgctcc    18480
gtcccccatg ctggagtgca gtggcgtgat ctaagctcac tgcaacctct gcctcccagg    18540
ttcaagtgat tctcctgcct catcctccca agtagctggg actacaggca cgtaccacca    18600
cacccaggtg attttttttt tttttttttt tttttttttt agcagagatg gggtttcacc    18660
atgttgacca ggctggtctt gaactcctga cctcaagtga tccacccacc ttggcctccc    18720
aaagtgctgg gattacaggc gtgagccacc acgcccaata cccaactatt aataaaacca    18780
aatctctaga gctgagggct gggtgtctgt gttttttat tagaatccca aggtaattcc    18840
aaagggcagc caagttgaga atcactgctc taggtggtct catccaggct catggcttta    18900
cagacctgca tcagagctgt ccagtagagt gttctgtgat gatggaaatg gtccatatct    18960
gcatcgttca ctacagtagc ccctagccac agccacatat ggctactgag gtcttaagat    19020
gaatgactag ttcttagtgt gactgagacc cactaaagaa ctataactga aatgataatt    19080
ttaatatatt tttggggggg tagagacagg ggtctcactt tgttgcccag gctggtcttg    19140
aactcctggc ctcaagcaat cctcccacct cggcctccca aagcgctagg attacaggtt    19200
tgagccaccg cgcccggcct aataaatata aatttaaatt tcattactat gaaatttaat    19260
actagtttat ttaatagtag tttatttaat acatactagt gtatgactag tggttactgt    19320
attgaacaac aaagatccca ataagtatt ccagcctaga tttttttttt ttttgagacg    19380
gagtctcact ctgtcgccta ggctggagtg cagtggtgtg atctcagctc actgcaacct    19440
ccgcctcccg ggttcaagtg attctcctgc ctcagcctcc caagtagctg ggattatagg    19500
cgtgcaccac catgccaggc taattttttg tattttagt agagacaggg ttttgccatg    19560
ttggccaggc tagacttgaa ctcctgacct caggtaatcg cccgcctcgg cctccagcct    19620
agaattttga gctgcagact ggtggaccct attgcttcac aattacaaaa gctggaaacc    19680
ctgggggcat ccttgaccct ccctccttcc tctcacccca tgtctgatct gtcagcagat    19740
cctgttgttc tacctttgga atagcttctg ggacccacag cccccacctg gtctctgctg    19800
ctttacttgt ggaggtcctg cctgtcctcc agggctctgg ctgggtcatc tcctccagag    19860
ggagccctcc ttctgtgctc cgtagcctgt gggctgtggg tgcctgtgct gtcttgacaa    19920
gcatttgctc aagtaaactg gtctccctag ctcacctgac ttgaccagaa caagaacctc    19980
acataccagt gtgaacagaa ctgggagaga ggtgtgtagg aggcctttca tatcttacct    20040
agatagcagt agcttctcat ctttcacctt ttctttcttt tttttttttt tttttttttt    20100
ttttttgaga cggagtctcg ccctgttgcc caggctggag tgcagtggtg cgatctcagc    20160
tcactgcaac ctctgcctcc tgggttcaag tgattctcct gcctcagcct cccaagtagc    20220
tgagatttca cttgcccacc accacctg gctaatttt ttgtttgttt gttttaatat    20280
ttttggtaga gatggggttt caccatgttg gccagactgg tctcaaactc ctgacctcaa    20340
gtgacctgcc tgcctcagcc tcccaaagtg ctgggatttc aggcaagagc caccacgcct    20400
ggccctcgtt ttttctttt aaagaacaaa gctctggtta tagtccccat cacgctgtat    20460
caccgttact cctgcagatg tgtgaacctg cctggctaga ggtggaatct atgggagcac    20520
tcagtcacca tctggtgtgg gagggaggga gagaagcatg aagggacggg gaagagtgtg    20580
gaaggggagg ggtaaaggag agggaatggg tggccctcac ctcacttttg tccctctcag    20640
ttacagctca gaccctcccc taggtttccc aggtgtgcca ggggaagcct tgccctctgg    20700
ccaggcaaag ccattggaag tctgtaaagg tcacacacag agaaacagca gcagtgctga    20760
tgatagcaac gtccccctcc ctcgtcccct gccccatgac aggtaggcag tcacagccca    20820
gccccgagga aggagcagtc cccctctcc ctgccacaca ccatagatct tctggatgcc    20880
ctggagatcg tcctggggca gcttgaagtt gtgcgtctcc atgtactggt agaagggcgc    20940
catgatggcg ctggggtcgc tggagtgctc cagtcccagc gcgtggccca gctcatgcac    21000
agccaccagg aagaggtcgt tccc                                           21024
```

```
<210> 2146
<211> 437
<212> DNA
<213> Homo sapiens

<400> 2146
ggctctgggt gctttaagaa tgtctgggag ggtcgagcag ggattctgag gagagagggg     60
tcatttaaac ctggaggaag atgttcaggg aaagcttcac aaaggtgaag ttgaagctca    120
gtcttgaagg atcagaagtt agtcaggaga acggattcag ggggcaggag aggaagggtg    180
ggggtggcat tcctggcgga tggaatgcaa taaacacagt ccagagacag gcagtttcat    240
tccacctggc tctggaacaa agcaggaggg gagggccgga gagagatgag gtcagccagg    300
ctggaaagca gggcgcttaa tgccatacaa aggaatttgg atcagcttct tggctagtgg    360
ggggtttaag taggagtggg ggtggtgata caattaaatc actctggctg cagttgaggg    420
aggattagag ggaacaa                                                   437
```

2206

<210> 2147
<211> 854
<212> DNA
<213> Homo sapiens

<400> 2147

```
ccaggccctg aaggatgggg aggttttgga cagagggagg agagagttag aaaaattttt        60
ggtagagaga atcaggtgaa agagatgccc taaagaggac tgagtgggtc tgaggtgaat       120
gagtgaggaa gagcagagta tgtggatacc cggaaacaca cacacacaca catcatcatt       180
atcatcatca tcattgtcgt cgtcatcatc ttgctgagtc atcatcatca tcatcatcat       240
tgtcgtcgtc atcatcttgc tgagtgtctc ttgaagtaca ggctgtgaca ggttgtgggc       300
cattttcctg aactcaccac ttacccggga tagtaaacat gatacacatc aataaaggca       360
gactttattg tgaatcacag cgcctggtgt atcctgaact ttgaggagtt atgggaggga       420
cacgttgggg gaatgggaag ggcaccattc aggccaatta tggggaaacc cctggaggag       480
ggtgaatgcc gaaggaggaa ttggggggagt ccaggggctc caagttacca ctgtgacatt       540
ttgagagaac ccggggcttt tgcagattct acaaaatgtg ggccaagttc atcctgtcca       600
agtgtgcagc agggcccttg gcccccatca ctatcctggg gacagaagtt ggctgctgag       660
tgagtgatag aggccgtgcg agaggcacat cgtggaagcc aaccagcacc cacatccttg       720
cccaccctgg accccttttcc agccttttcc tgagcccctg cttcctcagt cctcccctct       780
ctccagcacc tgcagcctgg ctgccttttcc gtctctggct gcgctctttc tccagcctcg       840
gtctggccgc actt                                                         854
```

<210> 2148
<211> 437
<212> DNA
<213> Homo sapiens

<400> 2148

```
ggctctgggt gctttaagaa tgtctgggag ggtcgagcag ggattctgag gagagagggg        60
tcatttaaac ctggaggaag atgttcaggg aaagcttcac aaaggtgaag ttgaagctca       120
gtcttgaagg atcagaagtt agtcaggaga acggattcag ggggcaggag aggaagggtg       180
ggggtggcat tcctggcgga tggaatgcaa taaacacagt ccagagacag gcagtttcat       240
tccacctggc tctggaacaa agcaggaggg gagggccgga gagagatgag gtcagccagg       300
ctggaaagca gggcgcttaa tgccatacaa aggaatttgg atcagcttct tggctagtgg       360
ggggtttaag taggagtggg ggtggtgata caattaaatc actctggctg cagttgaggg       420
aggattagag ggaacaa                                                      437
```

<210> 2149
<211> 854
<212> DNA
<213> Homo sapiens

<400> 2149

```
ccaggccctg aaggatgggg aggttttgga cagagggagg agagagttag aaaaattttt        60
ggtagagaga atcaggtgaa agagatgccc taaagaggac tgagtgggtc tgaggtgaat       120
gagtgaggaa gagcagagta tgtggatacc cggaaacaca cacacacaca catcatcatt       180
atcatcatca tcattgtcgt cgtcatcatc ttgctgagtc atcatcatca tcatcatcat       240
tgtcgtcgtc atcatcttgc tgagtgtctc ttgaagtaca ggctgtgaca ggttgtgggc       300
cattttcctg aactcaccac ttacccggga tagtaaacat gatacacatc aataaaggca       360
gactttattg tgaatcacag cgcctggtgt atcctgaact ttgaggagtt atgggaggga       420
cacgttgggg gaatgggaag ggcaccattc aggccaatta tggggaaacc cctggaggag       480
ggtgaatgcc gaaggaggaa ttggggggagt ccaggggctc caagttacca ctgtgacatt       540
ttgagagaac ccggggcttt tgcagattct acaaaatgtg ggccaagttc atcctgtcca       600
agtgtgcagc agggcccttg gcccccatca ctatcctggg gacagaagtt ggctgctgag       660
tgagtgatag aggccgtgcg agaggcacat cgtggaagcc aaccagcacc cacatccttg       720
cccaccctgg accccttttcc agccttttcc tgagcccctg cttcctcagt cctcccctct       780
ctccagcacc tgcagcctgg ctgccttttcc gtctctggct gcgctctttc tccagcctcg       840
```

2207

gtctggccgc actt   854

<210> 2150
<211> 670
<212> DNA
<213> Homo sapiens

<400> 2150
tcggcacagt gacagaggca cccagggctc agcaagctca tggcccagct tgttggactc   60
agagggcaga agaatcacat tctaaacatg ataaggtata gccagcagga ggcagattcc   120
cagattgatt ctccagagcc ttgtaggtcc caagggtgcc tatgacacca atgggaatct   180
gaaccaacac agacagcaca gtcttcttag gagaccctag tgcagcagcg ctggcctcct   240
cctgagcgtg cacgcttata tggcttctga gctggccagg ctacttcatg catttggttt   300
aatgggtcct cgtaaggcag gagaatcttc ttgaacttgg agttgggtct gtggtccatt   360
ggtcagtact ttgttcagag gcactgaggg tgggaaggct catggagctg gattctgctg   420
ctgggaagct gggtgggcct tgtttgtggg cctcaggttc aggactgaat gagagtcctc   480
ttgttgcgag ttgagggtgt actctgggca tgccatgccc ttttttgta ctaagagggt   540
agaaaagcaa agaccagact agttggcaaa ttggaaccca actacccagt ttatttattt   600
cttaggcgta gaaggaataa tttaggggga actgaagagc caacctaaag gaaaaaaata   660
aaataaaggg   670

<210> 2151
<211> 670
<212> DNA
<213> Homo sapiens

<400> 2151
tcggcacagt gacagaggca cccagggctc agcaagctca tggcccagct tgttggactc   60
agagggcaga agaatcacat tctaaacatg ataaggtata gccagcagga ggcagattcc   120
cagattgatt ctccagagcc ttgtaggtcc caagggtgcc tatgacacca atgggaatct   180
gaaccaacac agacagcaca gtcttcttag gagaccctag tgcagcagcg ctggcctcct   240
cctgagcgtg cacgcttata tggcttctga gctggccagg ctacttcatg catttggttt   300
aatgggtcct cgtaaggcag gagaatcttc ttgaacttgg agttgggtct gtggtccatt   360
ggtcagtact ttgttcagag gcactgaggg tgggaaggct catggagctg gattctgctg   420
ctgggaagct gggtgggcct tgtttgtggg cctcaggttc aggactgaat gagagtcctc   480
ttgttgcgag ttgagggtgt actctgggca tgccatgccc ttttttgta ctaagagggt   540
agaaaagcaa agaccagact agttggcaaa ttggaaccca actacccagt ttatttattt   600
cttaggcgta gaaggaataa tttaggggga actgaagagc caacctaaag gaaaaaaata   660
aaataaaggg   670

<210> 2152
<211> 24413
<212> DNA
<213> Homo sapiens

<400> 2152
ccggctcgcg gcgcgtggag gctgctccca gccgcgcgcg agtcagactc gggtgggggt   60
cccggcggcg gtagcggcgg cggcggtgcg agcatgtcgt ggctcttcgg cattaacaag   120
ggccccaagg gtgaaggcgc ggggccgccg ccgcctttgc cgcccgcgca gcccgggggcc   180
gagggcggcg gggaccgcgg gttgggagac cggccggcgc ccaaggacaa atggagcaac   240
ttcgacccca ccggcctgga gcgcgccgcc aaggcggcgc gcgagctgga gcactcgcgt   300
gagtgcggcg gggcggggcg gggcgggcgg gcgggcggga cgggccgggg aagcgggagc   360
cctggccctt gccgctcctc gctgctgtcg gcagccactt cccgggcgag actgcgcccc   420
cggagcaccc ccggccggag ccgtctcgcg tgccgggagg atcggactct ttccgtcacc   480
cgtttgcacc tctgcagctg tcaggagcgg gtcaggtgcg aaaagcggtg cggaggtggc   540
gctcataggt tacaggggtc agggtctggg gctggccgtg gtcttcagtt accgccgagc   600
gtgcgggatc cttctgcgct tgccgcctcc acgtggcaca ggccaaggcg tggccagatg   660
ggtagatggg tttgttgggt ggttgctagc agtttccacg taacaaggga agcgtatttg   720

                                 2208

```
agagttactt gattctaacg agactagcag atttgcactt cttgttggaa gacgttagca     780
tttgcacggc gaggtctgtg aagccacagg ccaggccgtg ctgctcagct tgagtaaacc     840
cctgacccaa ggccctcagg gtgtgagcac tgactgcacc ttccctaagc tcgggtctct     900
tccccagcc ttcctttccc ctgtggcttt aacgatttgt agcacgatgc agttcaaatg     960
gctaggagtc tggaacgtag aaggtgctga attcattgaa agaatacagt ggttctcaac    1020
tcttgtttaa gccggggttc tttctatttta tttatatatt gagacacagt atcgccctgt    1080
cgccgaggct ggagtgcagt ggtgcgattt cggctccctg caacctccgc ctccgattct    1140
cctgccgcag cctctcgagt agctgggatt acagccgcgc agcaccacgc ccggctaatt    1200
tttttttgtat ctttagtaga gacgggtttc accatgttgg ccagggtgct ctccaactcc    1260
tgacctcgtg atccgcccgc cttgtcctcc tgaagtgttg ggattacagg cctgagccac    1320
agcgcccaga cagaagggat tcctttttttt ttttttttt tttttttgag atgagtctcg    1380
ctctgtcgcc caggctggag tgcagtgacg tgatctccac tcactgcaag ctccgcctcc    1440
cgtgttcaca ccattctcct gcctcagcct cccgaatagc tgggagtaca ggcgcccgcc    1500
accacgcccg gctaattttg tagagatggg gtttcaccgt gttagccagg atggtctcga    1560
tctcctgacc tcgtgattaa ttttttgtat ttttagtaga gacggggttt cactgtatta    1620
gccagggtgg tctcgatctc ctgacctcgt ggtccacccg cctcggcctc ccaaagtgct    1680
gggattacag gcgtgagcca ccgcatgcca cctttttttt tttaagatga tgtcttgctc    1740
tttggccagg ctggagtgca atggcgccat cttgtctcac tgcaaaccgc aacgccctgg    1800
ttcaaagaat tctgctgcct cagcctccca agtagctggg attacaggca cgcgccacca    1860
cgcccagcta attttttgtat ttttagtaga cgtggtttt caccaccttg ccagggtgg    1920
tcttgaccac ctgaccccgt gatccacccg cctcgacctc ccaaagtgat gagattacag    1980
tcctgagcca ccgcaccctg ccagcagggg ttccttttta gaaagaagat catttaggga    2040
atccctggtg tgaagcagat ataaacagag tttccctgtt taggaggga tggcctggtg    2100
gtacttgtgg ttccatcctg tgcccttccc cggggtgctg gggaacatcc tgagctgagg    2160
tttctggccc cggctgggtc tcataacccc agagggacat tcaggtttgg gcccaggccc    2220
aggctaacat ggatagtcct agctgggcac caccgacagt gcgtgttctg ttttgaagag    2280
atggggtctt gctttgtcgc ccagtctggc cttgacctcc tgggtaaaag ccgtccaacc    2340
gtctcagcct cctgaggaga ggggactgca ggcttgctcg gtaattttc tttttttctttt    2400
tcttttttttc tttttttttt tgacggagtc tcgctgtcgc ccaggctgga gtgcagtggc    2460
gtgatcacgg ctcactgcaa gctccgcctc ctgggtacac gccattctcc tgcctcagcc    2520
tcccgagtag ctgggactac aagtgcccgc cgccacgccc ggctaatttt ttgtattttt    2580
tttagagacc ggttttcacc atgttagcca gaatggtctc gatctcctga ccccgtgatc    2640
cacccgcctc ggcacccaa agtgctggga ttacagacgt gagccaccgc gcccggcttt    2700
gctccgtaat ttttctgtgt gtttttgaga ctgagtctgg ctctgccgcc caggctggaa    2760
tgcagtggca tcatctctgc tcactgcaac ctttgccttt ggggttcaag cgattctcct    2820
gcctcagcct cccgagtagc tgggatcaca ggcgcccgcc agcacacctg gctaatttttt    2880
gtgtttttttt actagagacg gggtttcacc atgttgttta ggctggtctt gaattctggc    2940
ctcaggtgat tcgcccacct cggcctccca aagcgctggg atgacaggcg tgagccgctg    3000
ctcatggcct tcctcggtaa ttttaacgat caggttagga tgggaatcaa gggctggact    3060
tcagggcacc tcggaggaca gcggatgttg gtgactgact ttcttgctgc aggcttattt    3120
ggagggttcc tttgtgtcct agttcctggg ggttttcacc cgctaacttc acttagagat    3180
tgaaacttct cccacttcca gaagctgaat cgtagtgatc agcctgcggc ccctgcagt    3240
ggtacaggcc tggttgagca gcctcaggcc gcctccccat agtgcagacc tgtgcctctg    3300
agttgctcca gtcctggcgg ccccggagct cctgacccgc agtccgctct gccggcgttg    3360
ccagtgcctt ggtctgccct ctctgtggtg gagcggggcc cggggcaggg tctccaggtg    3420
caccgtgggg agccctccat caggcttttg tttctgtgga ttgtgttcca ggtgtgggct    3480
ctttcatttt gatcccttct ctccttcctg gcctcactgc tggcgggtga gagaggtttc    3540
tccggagttg actgcccct ttccccgggt gcccctgcc ctgcccctct gcctggtagc    3600
ccctctgcaa gcccggcccc tcccgacgct cctggcttcc tccgtgcccc tttcctggca    3660
gcggggtcgc cgagattcgc ccgttgcttt gtccttgctg ctctccaggc aaacgggcgg    3720
ctcctcctca ccgactgcct cctctgtccc ttgaggctat agccccatgc cgcctcgttc    3780
ccagagtctg ccctgacccc tcctccggcc tgtccttgga agtcacagca gtacattatc    3840
ccagaactgt ctgtgagcac cagcgctcgc cctgcactcc acagagggg tgcctggagg    3900
agagcctcgt gccctgtggg tgtgaattca cgcgctggga cgcacgtccc tggcacaggg    3960
tcacaccaaa gtggtgaatg attgttctca ttctaataac cgagaggcca cacgggcacc    4020
tgacctgctc tttcccctct cctcctcccc agagtcactg ggggtaggaa ctgtcaatga    4080
gccattttca ggggagggag tggcctcagc ttaatccagc caaaggtccc ctcgggagga    4140
aacaggcaga gctcctcacc gtgacaccca cgttcctgtc actgctctgt ggcaggaccc    4200
tgggggactg acacaccctc agtcccctcg gggtcagagt gagagtggtt gagagcccgg    4260
ggtcgcttca gcccttggct tcccgagttt agcagccaaa cccgttgacc tggcactgtc    4320
ttccctgaga ggcaggtccc ggtctcatct gtgctctgtt cactggggcc cccgaggtta    4380
```

2209

```
gctaccaagg cgcttcctga aatgtgacgc tgatgcccgt cagcccagtt cgtgcctaac    4440
cacaggccca agcagaccca ccccaacacc aaagtgtcgc tgcctctgtc taaatgcaac    4500
gagtgctccc cacggcactt ccccctgcgt cagtcacctc caaaaattac acctgagctg    4560
agaacagacg ctgggctcta gttagtgacg tgtttgctgc agttgactct gaaggcttaa    4620
aaaagtgaga cgggctgcgg gaggaagaga gacgggaaca acgcaccaac ccaggagcat    4680
cgggggtccc tgcctacttt acacgtcttt ctgtgttaga ataatttttt tttttttgag    4740
acggactctt gctgtctccc ccgctggagt gcattgcttc gatctctgct cactgcaagc    4800
tctgcctccc aggttcacgc cattctcctg cctcagcctc ctgagtagct aggactacaa    4860
gtgcccgccg ccacgcccgg ctaatttttt gtattttttag tagagacggg gtttcactgt    4920
gttaaccagg atggtcttga tctcctgacc tcatgatcca cccgcctcag cctcccaaag    4980
tgctgggatt acaggcgtga gccaccacgc cctgctagaa taattttttt ttagagacgg    5040
agttgcgctc tgttgccccg gctggagtgc ggtggtgcga tctcggctcg ctgcaagctc    5100
tgcctcccag gttccagcaa ttctccagcc ttggcctccc cagtagctga gatcacaggc    5160
gtgcaccacc acacccagct ttttttttgtg tttttagtgg agacaggatt tcgccatgtt    5220
ggccaggttg gagattttat tttttcttaag tctcactctg tccagctgga gtgcagcagt    5280
gtgatċtggg tgactgtagc ctctgcctcc ggggttcaag ccatcctccc acctgagcct    5340
cagagttgct gggattacag gcgtgaacca ccgcttccca ctaggttttt gtattttttag    5400
tagaggttgg gtttcaccat gttggccagg ctttggtatc cgtgtatcct acacctgctc    5460
tccgtgccac atgcgcccgc aggttacgcc aaggaggccc tgaatctggc gcagatgcag    5520
gagcagacgc tgcagttgga gcaacagtcc aagctcaaag tgagtggggc cggtgtgggc    5580
gaggaggccg gggcgcacat ggggttcagg cgtggagatt ggtggggctg ctactggtgg    5640
gtagggccag gggcgtgtac atgggcagca gtggggccag ggccgagctt gggcgcctca    5700
tttcacagag ggaaacaagg ggaggtgaga gacgctgccg cagagccgcc cgagagggag    5760
ggtcagtgtt ggtgagggcg tctggtcgtc ctgagggagg gccggtgttg gtgagggcat    5820
ctggtcgtcc tgagggaggg ggtcttcttc acattctcac ctcatttctt ttcactcagc    5880
aggatttttt attttatttt attttatttt attttatttt attttattta ttttgaaacg    5940
gagtctcact cttgcctagg ctggagtgca atggcgcaat ctcggctcac tgcaacctcc    6000
gcctcccggg ttcaagcgat tcatctgcct cagcctctgg agtagctggg attacaggca    6060
cgcgccacca cgcctggcta atgttgtatt ttagtagaga cggggtttct ccatgttggt    6120
caggctggtc tctaactccc gacctcaggt gatccacccg cctcggcctc tcaaactgct    6180
gggattacag gcacgcgcca ccacgcctgg cctatttttat tttattttga cacagagtgt    6240
cactctgtcc cccagtctgg cgtgcaatgg tttgatctcg gctcactgca acctccacct    6300
cccgggttca acctcctgcc tcagccttcc gagcagctgg gactacagga gcctgccacc    6360
acatctggcg aattttttgta tttttagtag agaagggggt tcagcatgtt gtccaggttg    6420
gtcttgaact cctgacctca ggtgatccag ccactttggc ctcacaaagt gctgggatta    6480
taggcaagag cgatggcgcc cggcccactc agcaggattc ctagaatggg cacgagctct    6540
gccctcatca cagtccaaaa gtgagcacct gcctggagct gcccagaaac agccttgtgg    6600
ggtggggttg gtgtctgacc tccctcccccg ggggccttcg caggcttctc tgctggtgct    6660
tctgtgcctg tgggtctgga ttcctccagg gcctgatcct gggtgcagat gcagctggaa    6720
gccctgaacc tgctgcacac actagtctgg gcacggagtc tctgccgtgc cggagctgtg    6780
cagacacagg agcggctgtc aggcagtgcc agccctgagc aagtgccagc tggtgagtgc    6840
tgtgctctgc aggagtatga ggccgccgtg gagcagctca agagcgagca gatccgggcg    6900
caggctgagg agaggaggaa gaccctgagc gaggagaccc ggcagcacca ggccgtaaga    6960
gcgcaagagg ccgcgaggga ggccgcccgg ctgcggggag cggcctgggg caggactggg    7020
agctgggtgt ggtcccgggg cactctggag tcagccatta gagctgccct cggaacggcc    7080
ttgcacaaac gcctaagacc tgtaaggtcc ctcactgctg agccggacgg gaggtccccg    7140
cgcctcccca cgtttgtgtg aggctgatgg cgcgtcggag tccccggcgc tccgcccagt    7200
cggcccagac tgcagctccc ggctgagatg tgtctttgcc gccctcttct cccccagagg    7260
gcccagtatc aagacaagct ggcccggcag cgctacgagg accaactgaa gcagcaggtg    7320
agctcagcct cccctgcgag gcgcctgcgt ccctgagaac gtaggtggct ttgtgggacc    7380
agtcagtggg tcagaggcca cggggcaaga acgatggggt tgctgacggt gggtgctaga    7440
gcagggaaa ctactcggac agacacgcac cagcacacgt gtacaggcac acatgcagat    7500
gtgtgcacac atgtacacgg agacacaggc acctgcccac acagacacac actcctcgca    7560
cacacactcc cggcagacag gcacacacac ccctgcacac atgggcacac acacacccct    7620
gcacacacgg gcccacacac tcccctgcac acatggggaa acatgggccc acacacacac    7680
acccctgtgc gcacacaccc ctacacaggg gcatggacag acacccgcaa acacaccccc    7740
acacaacacg ggcacgcaca cacacacccc gccacaacac aggcacacat accccctgcac    7800
acaggcctgc acatacaccc ccacacaggg gcatgctcac acagcccgca cacacacagg    7860
tatgcagaca cacccaaaca cacatgggtc ctcaggcaca cactcccgca tggggcatgc    7920
acgcacctcc cacacacacc cgatcacaca taggcatgca cacccctctg cacacatggg    7980
ggcttacaca ccccccgcca cacgtgggcc cgctcacaca gcccacacac ataccccttc    8040
```

2210

```
acacaggcac acaccgcccc gcacacacgg gcctgcacac acacccccac acgggcatgc   8100
acacgcccac acacacgggc gcgcacacac ccggacatgc acaaacaccc acctgcacac   8160
acgggcacac cccaccacac acacacacag gcatggacac acgcacaccc cctcacacat   8220
aggcacacat acacaaccca ggcacacacc cccttgcaca gacgggcacg cacacagtcc   8280
cacacatggg cacacgcgca caccgccgca aacacacaca cgggcacgtg tacgcacccc   8340
cactcacagt gtgcctcata catacgggca cgcacctgca cacgagggca caccccacc    8400
ccccaccccc acacacccc gcacccatgg gcacacacac attactgcac gtgagggcat    8460
gcacacacac gccctgcaca ccccccacaca cagacccctt gtgtgggttc cacagcagcg   8520
gctctccagg cacgacaagc ctccttgtct cccacccggg cgcccagctg gcagtctggg   8580
aggttctgct tgggagggct ggtcagtggc ggcgggcggg tctctgggtc tatgagaaaa   8640
gcttgggtga catctgttcc ctggtcctta gggaccgtca ccttcagtcc tgagctcgca   8700
ggcggggttc acatgttgcc tgttgtgggc attgtagctt taacgtttaa ttggcggaag   8760
acagaagctt ccttaagccc agcctgaatc agggcagtgg tgttgggagg tcggcccgcg   8820
gtggcccttg tcagggaagc cacagtgggg gctgtttctg ccactgggga gtttgggacc   8880
ctgaacccat cccctcagtg actgccgtcc cagccgatgt cacccgtgtc tgtgtcaggg   8940
tgcggcgtct gcaggtcccc aggtgcccag gacgcttgga gttctgtggt cctggggcgg   9000
acgcaacctc tggattggtg ttgagcattt ttctggtttt aaaggctttt ctctttttct   9060
gcggcttctt ctcagcaact tctcaatgag gagaatttac ggaagcagga ggagtccgtg   9120
cagaagcagg aagccatgcg gcgaggtagg ctgtctgctc tcctggctgg ggcggaggtg   9180
gcgggggctg cttgtggatc cggcgtgcac tctgagcctg agttctgccg cccggcccct   9240
catagctacc agtgcagtgg gcgaggcctg ctggggctct gcggggtggg gctccctctc   9300
ggaagacacc tctgtctgcg agtggacgcc aggatctgtt cagggagggc aggagctgct   9360
tcacttcatg ggaagtacag gggccttttt tttttttttg agacggagtc tcgctctgtc   9420
acccaggcag gagtgcaata gcacgatctc agctcactgc aacctctgcc tcccaggttt   9480
aagcaattct cctgcctcag cctcccgagt agctgggatt ataggctccc gccaccacgc   9540
ccagctaatt ttttgtatc ttcagtagag aaaggggttc actgtgttgg ccaggctggt    9600
cttgaacttc ttgatctcat tatccgcctg ccttggcctt ccacagtgct gggattacag   9660
gcgtgagcct ctgcgttctg cctagaacat gggtctttac tgtcctggtt tcagtgggga   9720
tcacaggtat ttggtgccat gtggcatttg ttggcgagtg ctccaggcaa acgtctgtca   9780
ccactcttca ccgtgggtgg gcttgtggcg aggtgtgtgc gtttaatgtt cagtagccag   9840
gcacgtggca cgtcacgcgt gtctgagttc tgacagctgt gtttctgtgt gaggggggct   9900
tccttcagaa ctccgcgttc tggttttttg cttcaaagag ctcgtcctga gaagttgcct   9960
aggcctctgg gtcggatttc tgccctaatc catgggcagg gccggcctgt ggcgctgtcc  10020
ctaccaaggt ctgtgtgtgt ctgtggcacg ggcctgtcca tggactgggc ttgtccgtgg  10080
agtgggtcgg tccatggcct tagcctgttg gtggcgtggg ccggtccacg gcatgggcct  10140
gtctgtggcg tgggccggtc cgtggtgcgg gcctgtccgt ggccttagcc tgttggtggc  10200
gtgggccggt ccgtggcatg ggcctgtctg tggcgttggt ctgtccgtgg cgtgggccgg  10260
tccgtggcgt gggccggtcc acagtgtggg tggaggtgga cgtgctgcac tgcatggtgc  10320
tgagctgccc tgcctctctg gggcagccac cgtggagcgg gagatggagc tgcggcacaa  10380
gaatgagatg ctgcgagtgg agaccgaggc ccgggcgcgc gccaaggccg agcgggagaa  10440
tgcagacatc atccgcgagc agatccgcct gaaggcgtcc gagcaccgtc agaccgtctt  10500
ggagtccatc aggtgagcac tgcccaggcc cgggccggcc acagatggag ccccgcaggt  10560
gtgagtcgct ggtcccaggg cgctctccag ctcttccagg cctggccgcc ataggctgac  10620
tccttggtgg gggcactgcc cctctgtcct ggcaaggccg tgccgccatg tcagggcctc  10680
accctcaacc tgctctcgct gcgtggtacg gatcttcgtg tccttcctgg tcacaccact  10740
gctttccccg caggacggct ggcaccttgt ttggggaagg attccgtgcc tttgtgacag  10800
accgggacaa agtgacagcc acggtaaaca tattcataaa acagggctgg caggtggctg  10860
agaggcagca tgtgggggcc tcctggagcc ccaggtcctg tccctgccgg ctctgcacag  10920
ccctgtagct ctcccagcac agagcaaacc cacgttgtac ctgctgggct cggctgctcc  10980
tccctccttg agctgggaga aaaaaatgca gttgccagcc tgggccacac ggtgagaccc  11040
catctctacg aagaataaaa cattagctgg gtgtgatggt ggcgcctgtg gtcctgctac  11100
tcgagaggct gaggtaggag gatcacttaa gcccaggagg tttgggctgc agtgagccaa  11160
cattgcacca ctgcactcca ttcttggcga gagaataaga ccttgtctca agaaaaaaat  11220
ggccaggcgg tagtggctca ggcctgtaat cccagcattt tcggaggcgg aggtgggcgg  11280
atcacgaggt ccggagatcg agatcatcct ggtaagagtg aaaccctgtc tctactaaaa  11340
aaaagaaaaa aaaagaaaag aattagctgg gtgtggtgac atgtgcctgt aatctcggga  11400
ggctgaggca ggagaatcac ttgaacccgg gtggtggagg ttgcaatgag tcgagatccc  11460
gccactgcac cccaagacca gcatgaccaa catggtgaaa ccccatctct gctaaaaata  11520
caaaaattag caggccaagg tggcgtgcgc ctggaatccc agctgcttgg gaggctgagg  11580
taggaaaatt ggttgaaccc aggaggcgga agttgcagtg agctgaaacc gcacaattgc  11640
actccaacct gtggaagaag agcgaaactc tgtctcaaaa aaacaaacaa aataaataag  11700
```

2211

```
ccaggcctgg  tggctcactg  gtgtaatccc  agcactttgg  gaggccaaga  cgggtggatc  11760
acttgaggtc  agaagttcat  gaccagcctg  gccaacatgg  tgaaaaccca  tctctactaa  11820
aaatacaaaa  attggccggg  cctcgtggca  caggtctgta  ttagctgagt  gtggtgacct  11880
gagcctgtaa  tcccagtcac  tcgggaggct  gaggcaggag  aactgcttga  acctggaagg  11940
cggaggttgc  agtgagccaa  gatggcacca  ttgcactcca  gcctggccac  agaacaaaac  12000
cctttctcta  aaaacaaagt  caagggcgca  ttaagcagct  ccttcatgtc  ctcaggtgac  12060
accgtctcac  caacatggca  acaccacctg  caacattcac  cgtcacgctg  accaggccac  12120
cggcaggtgc  tgcagtcaca  gcagtgggcg  ccggcaccac  ggcagagcaa  gtgcccactc  12180
agtgccgggc  acctactgtg  tgctgggcgg  ggtgggggga  cggaggacac  agccatgtgc  12240
gacctggggc  gccaccacag  caggccagag  cctgggcaca  aaagagcgag  gctttaaacg  12300
agagaagaat  ctgaacttca  aactctcagg  gttttattcc  gaataacgaa  agttttgcg   12360
aaatggagtc  gggttcgctt  tctgggtctt  tgattttttt  tttttgaga  cagagtctca  12420
ctttcaagtg  tgctgctcaa  gtgcagtggc  gcgatctcga  ctcactgtca  gcttcgcctc  12480
ttgggttcac  accattctcc  tgtctcagcc  tccggagtag  ctgggactac  aggtgtctgt  12540
cgccacgccc  ggctaatttt  tttgtatttt  tagtagagag  agggtttcat  cctgttagcc  12600
aagatggttt  cgatctcctg  acctcgtgat  ccgcccgcgt  gggcctccca  aagtgctggg  12660
attacgggcg  tgagccaccg  tgctcagcca  cagccagcta  attttttcat  gtttttagta  12720
gagacgaggt  ttttccaggt  tggttaggct  ggtcttgaac  tccaacctct  ggtgatacgc  12780
cggccttggc  ctcccaaagt  gctgggatta  cagacctggc  cagcctaaac  gattttaaa   12840
acaagttaga  gattttgggt  tagtcttgtt  ttccaggaat  aaagtaccat  ttttagtggc  12900
caaggatgta  ccagaggtg   tggccctgtg  acatccagct  gggtctgccc  agggccccgc  12960
tcagcgaccg  aggctttcta  ggatttatgc  tgccagttgc  agagaaaatg  gccctgagtg  13020
agggcgttat  gactgcccca  cctgcctcct  gtaaccgcgt  ggctgtggga  ttcggggctg  13080
ggaattcggg  ttcctgtggg  gccagcacac  ggccctgtgc  ttctccctca  ggcggagaga  13140
gggtgggggc  agccccgtgc  gtctcctgct  ctaggaggga  gggacggtgg  gggccggtgc  13200
gccagtgcgg  tgtctctgct  gcaggtggct  gggctgacgc  tgctggctgt  cggggtctac  13260
tcagccaaga  atgcgacagc  cgtcactggc  cgcttcatcg  aggctcggct  ggggaagccg  13320
tccctagtga  gggagacgtc  ccgcatcacg  gtgctggagg  cgctgcggca  ccccatccag  13380
gtagcggcgc  aggcctggcc  ctccctgagt  gcagttcctg  gctgagtccc  ttctgcccca  13440
cgagcacagc  ccacgcacac  cctcccgtcc  cttccctttc  cccggataac  aggcacccgc  13500
acgctgcttc  acgggtgggt  tttcctgtct  ggcgctgtac  cttaggggtc  tgcatcagtg  13560
agacccttcc  cctgtctgcc  tcggtgtccc  ttgctcaggg  ctcttgatgg  ggcctgggag  13620
cacatcgggg  tccttgcaag  acccgggact  tgggtgtgcg  gccgtctgtc  ggggaagctg  13680
ctacaggcca  tggcgtctgg  tggcctccct  ggggagccgc  gccgcttgcc  agccctgag   13740
gtgcctgctc  tccacaggtc  actgggtagg  tggttaagaa  aataaaagcc  aataaggaac  13800
cggaaaatgc  ccctaatccc  agcaatagcc  tcctggtctc  ccggcggggc  agggttccag  13860
ctccgggccg  gtcctggctg  tgctttgggg  cagctccgtt  tctgtgtgtt  accgagcatg  13920
tgtgtgcgtt  ggtggctgtt  ccgtggctgt  ggcaggtgac  ccaatggtgc  ttccccttcc  13980
cctccggcag  gtcagccggc  ggctcctcag  tcgaccccag  gacgtgctgg  agggtgttgt  14040
gcttagtgta  agtcggtgtg  cctgggaccg  gggaggtgca  gggaggggac  cccggagctg  14100
ggctgggctg  tggcccttgc  tagcgctcgt  ggtggcgccc  aggagctttt  gggtcctgag  14160
atgcaactgc  ttggactgtg  ccggggatag  ataggctgcc  cacgagctgg  gcggcttcct  14220
gaggagcaga  gtccgcaccc  gggcattccc  gcagccctg   tcaccgaggc  ttccgtgggt  14280
gcagagtgtc  tcccccaaac  ccccgtcttc  cccggcagcc  cagcctggaa  gcacgggtgc  14340
gcgacatcgc  catagcaacc  aggaacacca  agaagaaccg  gggcctgtac  aggcacatcc  14400
tgctgtatgg  gccaccaggc  accgggaaga  cgctgtttgc  caaggtgaga  gcgcctggct  14460
gaacaggtgg  gccaggggcc  gctggggtct  cacctgcctg  caggtgtctg  ggggcctcag  14520
ccgcctgggg  aatggacccc  ccttaggcct  ttgcctaccc  tcgtgtaggc  tcagggtgct  14580
ggtgtgggca  gcagcgcctc  ccatcttcca  ggcggggggac  gtctcctgtc  tggcaggctg  14640
tggcttccag  acagggacac  ccggcagggg  ctccacactc  caggtggagt  gtgcaggctt  14700
tgcagaggca  gagggaacat  ctgttctgtc  tcccctcact  cttcttgtcc  agaaactcgc  14760
cctgcactca  ggcatggact  acgccatcat  gacaggcggg  gacgtggccc  ccatggggcg  14820
ggaaggcgtg  accgccatgc  acaagctctt  tgactgggcc  aataccagcc  ggcgcgggtg  14880
agacgtcccc  acagcatgca  ccaggccctt  ggctgcggcc  cagcaggctg  ccttctggga  14940
aggggtcca   ggtgtctctt  ggggaccctg  tctttctgca  gctctgtcct  tgtggccacg  15000
caggaggccc  aatggagggt  ccctcggagg  gaaagtcccc  tgagtgtgga  ccctggtgga  15060
cacgaggtcc  ccagcgtgtg  gaggctgcca  gtgggatact  tggctcaggg  cagaagggag  15120
gtgggtgggt  gcaggggggag  aggggtcttc  acagctgcag  gggaggctcc  tccacagccg  15180
ccctccccccc  aacacgcctg  caggtgggcg  tgggcactgg  ttgccttttc  tagaaccatt  15240
tgaaagttag  ctgaagacag  catggcacac  tcccttcaat  aggtcccaca  gtgaccccgc  15300
gcagggcaca  gcccgggcac  ccttgtggcc  tcggctgtcc  tcgttggaac  cacgatcctc  15360
```

2212

```
atggttggca ccctcccctc tggcctttga cctttcactt tagaagacct gtccctgcgc 15420
caggcgtggt ggctcacggc tgtaatccca gactttcgga ggcggaggca ggcagatacg 15480
aggccaggag attgagacca tcctggctaa cttggtgaaa ccccgtctct actaaaaata 15540
caaaaaatta gccaggcatg gtggtgggca cctgtagtcc cagctactca ggaggctgag 15600
gcaggagaat ggcgtgaacc cgggaggcag agcctgcagt gagccgagat tgcgccactg 15660
cactccagcc tgggagacag agcgagactc tgtctcaaaa aaaaaaaaaa agaccctgct 15720
ccttgcgtgg actcttgagc actgcactgg gtcgctgtgt gggtgaaacc tgcagggcgg 15780
aggctgttgc cccatgtgtg gttggctggt gtgtgggtga aacctgcagg gcagagtctg 15840
ttgccccctg tgtagttggt ttcccactgc cttctgaggc tgagacgtgg tcagctgccc 15900
agaggccagg ctgatcggct tctgtcgagt ccaggactta gggctcctga tggggcagag 15960
cctgaccccg tggggatctg cctgcctggc ctgctcctgc cgcggccgga cgctgctgtg 16020
ggctgctcct ggcgtcactc tcgccttgct tggcctctct ctcgttcaca gcctcctgct 16080
cttcatggat gaagcagacg ccttccttcg gaagcgagcc actgtgagtg tcactaagcc 16140
tctgtctggc cacaggaggg tggtcgggtg ggcgcggctg tcatcctggg ccaggctgca 16200
gcccttaagc tggcttgcag tggcgcaatc ttggctcgct gcaacctctg cctcctgggt 16260
tcaagctgct ctcctgcctc agccccctga gtagctggga ttacaggtgt ttgccaccac 16320
acctagttaa gttttttgta tttttagtag agatggggtt tcaccatgtt ggtcaagttg 16380
gtcaagaact cctgatctca aatgatctgc ccacctggcc tcccaaaatg ctgggattac 16440
atgcgtgatc caccacgccc agccatacag ttattatttt aatacagg6t gtctgtcgcc 16500
caggctggag tgcaggggcg acatctccag ctcaagcagt cctcctgcct cagcctcccg 16560
agaagctggg attgcagagg cacactaaca cgcccggcta attttttttgt aacgttagta 16620
gagatggagt ttcccacatt gtccaggcag ggctcaaact tctgaactaa agaaattcac 16680
cggccttggc ctggcacagt ggctcacgtg tgtaatccca gcactttggg aggccaaggc 16740
aggtggatga cgaggtcagg agttcaagac cagcttggtc aatatggtga acccccgtct 16800
atagtaaaaa tacaaaaatt agccgggcgt cgtggggcac gcatgtaatc ccagctgctc 16860
aggatgctga tgcaggagaa tcgcttgaac ccaggaggca gaggttgcag tgagctgaga 16920
tcgtgccact gcactccaga ctgagagaca gaacaagact tcgtctcaaa aaaaaaagcg 16980
agagatttga tcgccttgac cttctgaagt gctaggatta aagatgtgag ccctcagtca 17040
ggcttttttt ttaaatgtat tttttatttt ttagcaattc tcatgcctca gcctcccaag 17100
tggcttgaga ttacaggtgt gccaccatgc atggctaatt tttgtatttc tagtacagat 17160
ggggtctcac catgttggcc aggctggtct caaactccct acctcaggtg atccgcctgc 17220
ctcagcctcc caaaatgctg ggttacatgc ttgagccacc gcccctggcc ctggtcagga 17280
ttttgagttt agatccatga aagtgtcgcc acgtccctgc tccctgcagg agggaggcct 17340
gtgggacttt ctgctctggc tgtttacaag gctttgcttc tggtgcctaa ggctggaacc 17400
ttctctctgc aggaggagat aagcaaggac ctcagagcca cactgaacgc cttcctgtac 17460
cacatgggcc aacacagcaa caagtgaggg agccctcgg gtcctgagcc cccgggcagg 17520
gctgtgcagc cgtcgccctt ggttcccact gagggtccct ggctcacagt gctgggcacc 17580
agctgtggcc tcagtgtgcc cacctcagat gtccctgggg aacggcccag ctcgggacag 17640
cacggggtgt cattgaggaa catgcagggg cctcccgggc agagctgggg tcagtcctgt 17700
cttcacggcc ctgtgcgccg ccgccccagc ttgcaggtcc ctctgcccct agatttctgc 17760
ggtcctgtgc ctgcaaggga ggtggtctga ttgctgccgc ccagaggtcc ccagtagggt 17820
gaccggccct atgtccaggc tccctcttcc ctcccaaatc ccttaatttt gagttttctt 17880
ggtctcctgg gccctccag ccccagtcac gtgtcacacg gaggatcaag tcctgctggt 17940
cggccgtggc tgactcttca ggcacgttgg gctcctgggt cagctgctgc cgttcgacgc 18000
tccctggagc cctgactcag gtccttccca gagaggcaag gctggggccc tgctgagcct 18060
ctgctgaacc cgggcccccg aggtcctgct tctggctcgc atggccataa tcttgacagg 18120
gactctgggt cccgcatccc tgctcccagc acagcggggc tcaggtagca ggagggagtg 18180
gtgttcccgg cactgcctat caggctgggc gagggtcagc ggggaagtac cacacagggc 18240
aagaacagag gcccgagaag ccgggcgggg ggcagctggg cgtggtgggg caggcaggcg 18300
ggtgaccagg gctgtggctg cgttctcccc atgtttcctg tgctcacaag ctgccgcttt 18360
agattctccc aaaaagtctc cccgagggg ctgaggagcc cccgttgccc tcggggcatc 18420
tcagctggca gccccagcgt ttccttcccc atccctgtcc tacagattca tgctggtcct 18480
ggccagcaat ctgcctgagc agttcgactg tgccatcaac agccgcattg acgtgatggt 18540
ccacttcgac ctgccgcagc aggaggagcg ggagcgcctg gtgagactgc attttgacaa 18600
ctgtgttctt aagccggcca cagaaggaaa acggtgagtg tcccgcctca cccggccccc 18660
aatccaggca ccatatggca tgggtgtagg ccagctgcct gtcttccggc ctccacctca 18720
tggtgtgggg tccgcggcct tggctgcctc acttgggaac tccttcccca ggcgcctgaa 18780
gctggcccag tttgactacg gaggaagtg ctcggaggtc gctcggctga cggagggcat 18840
gtcgggccgg gagatcgctc agctggccgt gtcctggcag gtgagtcagg ctccggcacg 18900
tccacccaga cgggacccca gctgctgtgg agatgctcag ttgcgccagg cctgtcccag 18960
caccggtgtc atgtgggagc ttctgttgag gggttttcag tgcacagacg tgacacaggg 19020
```

2213

```
ccccctgcct cagtcgggcc actccacgca gcagcgtgca cctgctcgtg ccctcaggag 19080
ggtggggcca tgttggttgc tgacagtcac acggggctct ctggaagcca gtccagcatc 19140
ccaggtgccc gggctctgct gggtgtggtg ggaggtttct ggctctcatc ttggccaaca 19200
ggcacctcct agagggaatg gtcgtcagga caggccccgt gtgagttggg tggtgggggt 19260
ggagggacgt tgtgtttcct ggaccaggtc ccttggcttg gtcctgtttg acgggttcag 19320
acacacggtg ggactggcct ccgattgtcc cacagttagt tgttcctcgg aggcacccct 19380
cctgctgctc cttggatact ccagggccga ggagccgaga ctcactggag tgtgggcatg 19440
gccatccaga gagctctgat caggccgggc gcggtggctc acgcctgcaa tcccagcact 19500
ttgggaggct gaggcaggca tatcacgggg tcagattgag accatcctgg ccaatatgtc 19560
gaaaccccgt ctctactaaa aatacaaaaa ttagctgagt ttggtggtgc atgcctgtta 19620
tcccagccac acgggaggct gaggcagaag aattgcttga cccggggagt tggaggttgc 19680
aatgagccaa gatcgcacca ccgcactcca gcctggccaa agattgagac tccatctcaa 19740
aataaaagaa agctttggtc tttgggggtt gctgaaaaag caaaaccagg tctgtggggt 19800
agaaggcgcc ctggccacac acaggcattg ccgcctctgg ggtccgcaga gtctgtgtga 19860
caacctggtc actcgatcta gcagcgtatt tgaatgaatg agtgacagct taatgaagta 19920
gccaagtacc ttgatttgaa cgtaggagcc ggggtatgta gggagctgta ttagtcagta 19980
caggctgggt tatgccgctg tgacaaagag tcccagatct caaaccccgt ccttgtgggt 20040
cagctgaggt ctctgttcca ggccgtcccc acttggaacc aggtctgttt ccacaactca 20100
gaaagtggag gctgggtatg gtggtggctg acgcttgtat tcccagcatt tggggaggcc 20160
aagtcagtca gattatttga agccaggggt tcaggaccag cctggaaagc aaggtgagac 20220
cccatctcta caaaaaatga aaaaattggc cggacctagt ggcacatgcc tgtaatgcca 20280
gctgcttggg aggctgaggt gggagggtca cttgagtcca ggaggcggag gctgcagtga 20340
gctgtgattg tgccactgca ctccagcctg ggttacagag caagaccctg tcttaaaaac 20400
tgagaataat ttggaacaag cccggtggct cactcctgta atcccagcat gttgggaggc 20460
caaggagaga agatcacttg aggtcaggag ttcaagacca ccctggccaa catgatgaac 20520
cccacctcta caaaaaatac gaaaattagc tgggtgtggt ggtgggtgcc tgtaatccca 20580
gctactcagg aggctgaggc aggagaattg cttgaaccca cgaggcagag gatgcggtga 20640
gctgagatca tgccactgca ctgtagcctg agggacagag tgagactgtc tcaaaaataa 20700
taataagaag aataataatt tgggctgggc acagtggcac atgcctgtaa tcccagcact 20760
ttgggaggcc gaggtgttgg atcacttgag gtcaggagtt cgaggccagc ctggccagtg 20820
tgccgagacc ccacctctac taaaaataca aaaattaact ggacgggggcc gggtgtggtg 20880
acttatgcct ctaatcccag cactttggga ggccgaggtg gcggatcac ggggtcagga 20940
gttcaagacc agcctggaca acatggtgaa accccatctc tactaaaaaa taaaaaaatt 21000
atccaggcgt ggtggctggc gcctgtagtc ccagctactc aggaggctga ggcaggagga 21060
tcgcttgaac ccgggaggtg gaggttgcag tgagctgaga tggtgccact gcactccatc 21120
ctgggtgtca gagcgatact ccatctccaa aaaaaaaaa aagaaagaaa ttaacctggt 21180
gtggtagcag gcacctgtaa tcccagctgc tcgggaggct gagtcaggag aattgctgga 21240
actcaggagg cagaggttgc agtgagctaa gatcacgcca cagcactcca gtctgggcga 21300
cagagcgaaa ctgtctcaaa atataaatga taacagtaat aatttggctt ggcacggtgg 21360
ctcttacatg tagcattttc tacacataag attatgtcac ctgagaacag gtgattttac 21420
ctctcccttt tcagtttgga tgactttct ttttcttgtc ccatatctct ggccagagct 21480
tccagcgata tgtggaatag aagtggtcag aattcttgct tggttctttc tcagaggaag 21540
ctttcagttt ttcaccactg agtatgttag ctgtggactt gtgatcgctg gccttctttg 21600
tgtttagggc atgttcttca atcctggttt gttaatttt tttgtttctt ttctttcttt 21660
ttggtggggg gaccagtctc gcttttgccg cccaggctgg agtgcagtag agacagggtt 21720
tcaccatgtt ggccaggctg gtctcgaact cctgacgtca ggtgacctgc ccacctcagc 21780
ctcccaaagt gctgggatta caggtgtgag ccactgcaac cgaccagttg aatttttttt 21840
ttttaatcat aaaagtgtgt tgaattttgt caaatgcttt tcctgcatga gatgagaggg 21900
tcatgtggtt tccttcctcc actctgctaa tattgattga ttttcatata ttgaactatc 21960
cttgcattcc aggaatgaat cctgcttggt tagggtgtag agtcctttaa ctatactgct 22020
aaattcgttt tgctggcatt ttgttgagga ctttcccagt gaggctcatc agggatattg 22080
gcctgccatt tctcttgtgg tgtgtttgtc tggctttaat atgagggtaa tgctggcttc 22140
ctaggatgag tgaggaaatg ttcttcaatt tgtccaagag tttgaggagt ggtactgatt 22200
cttcttaatg ttttgtgaat tcacatgtga agaaatcagg tccaggtctt ctctttgacc 22260
ttttatagct tgaagatctt aggttcccag aaaaattgca agggtagcac agagagctcc 22320
cgggcccggg gccttccac atggtgaaca tcatgtgtca ctgttggacc cacccgcgac 22380
caggttttgc cccagaatcc cacccaggag gccacgtgac atttagctgt cacttctggt 22440
gggctcctgc caggtcccgt gcttcctgga ggggtggccc tgtgagcatc tgcgtagccc 22500
ctctcctctg ctgggccctg ggtgacgtgc agccactcgg gtggaccctg agggtccctg 22560
cacctgtttg ccctctcttg ggtgggctca agaccaaaaa tgatgttgag cagtcctggg 22620
cccctgagcc acagtggcgg tgcggctccg gtcagtgtct cctgcgctcc cgggcccccg 22680
```

2214

```
acccacagtg gcggtccggc tctggtcagt gtctcctgcg ctcccgggcc cccgacccac   22740
agtggcggtc cggctccggt cggtgtctcc ccacacagtg gctcttggcg aggggtgggc   22800
gctggcagag gggacgggca ccacgtggtc atccccatga caggttctgt catggtgaca   22860
gtgttgtggg aggatggtgt gctgctgccc ctgcaccccg tgagatgaat cctgcctctg   22920
ggaggtacag ctgggacggg gcgagggacc cactcagctg tccaggaagg gtcccctgcc   22980
ctgtgcttcc tccaggtgtc ctggtgcact cctgagcacg gcacctagtg ggggtcccca   23040
caccctcacc ctgacccatg ggtgcctccc cttggggact ccacgccctt cgctggcact   23100
gagatggaga gcgacctgtc cgtggcagaa gggctgctgc acctgaggtg cctaaggcga   23160
caccaagggc cacagcccca gtagctccag cctccgtgtg ctcaatgcca agccctgtgc   23220
ccaggaggac agggaaatgg aggcagaggt ggccttgatg tcccaaggtg ggcagtggct   23280
gcctctgccc tggaggcctg tgagggtcag ggtctgaggg tctgaggtgc actatgaccc   23340
ggggcactg cctggccacg gctgagactc gcagagggtc tgcagttccc acctgcctct   23400
cggaagctgc cctgggtcag ccgtcagtgg tgctccgcct tgggtttttct attatcagaa   23460
agtcattgag caacagcagt gctgaggacg caggcagggc tgtgggcact gcaggggccg   23520
ctcccagtgt ccacacgcgt gctgggctct gccaaggtgt gggaagcctg tgtttcaccc   23580
tgaggttgtc ctggtgcccc tggtttggcc cctccccacc tcggggccct ggcgtgcatt   23640
aagggtggcg ggttcccata gcggcctccc tcagctccct ctctcttcac taggccacgg   23700
catatgcctc caaggacggg gtcctcactg aggccatgat ggacgcctgt gtgcaagatg   23760
ctgtccagca gtaccgacag aagatgcgct ggctgaaggc ggaggggcct gggcgcgggg   23820
tcgagcaccc cctatccgga gtccaaggcg agacctcac ctcatggagc ctggccacgg   23880
accctcta cccctgcctt gccggccct gcacatttag gatatgctcc tggatgggga   23940
ctgggctgtg cccagggcct ctgtcccca ggatgtcttg tggtggcggt cggccgttct   24000
gccccccagg gcaccccctg ttgtaggcac tggctaggga ggggcaggcc tccttcctgc   24060
ccctcgagac actcttggga gatgcatttt ccgtctggct cacaggggga gggtgaggct   24120
ttgtaccca gcccctgccc aggccactgt gagggtgggt gctggctgag cccctggggc   24180
agaaggagtg gggcaggcgg ggtctttgtt ctcggctccc acagcagagc caggtgaggg   24240
ggggcctgcc aggactagac agaagtgggg cggcctgaac cctgcttcca gccatggcca   24300
ggggccacgg aacccggcag gggtgtctga ggccgccctg tcagctggcc ggtccaagcc   24360
tgtggctgga gctggtgtgt gtttatctaa taaagtccca caggtgcctc acc           24413
```

```
<210> 2153
<211> 24533
<212> DNA
<213> Homo sapiens

<400> 2153
ccggctgcgg cgcgtggagc tgctcccagc cgcgctcgag tcagactcgg gtgggggtcc      60
cggcggcggt agcggcggcg gcggtgcgag catgtcgtgg ctcttcggcg ttaacaaggg     120
ccccaagggt gaaggcgcgg ggccgccgcc gcctttgccg cccgcgcagc ccgggccgag     180
ggcggggggga ccgcggcttg ggagaccgcc ggcgcccaag gacaaatgga gcaacttcga     240
ccccacaca aaaaatagga ccaaggcggc gcgcgagctg gagcactcgc gtgagtgcgg     300
cggggcgggg cgggcgggcg ggcgggacgg gccggggaag cgggagccct ggccttgccg     360
ctcctcgctg ctgtcggcag ccacttcccg ggcgagactg cgcccccgga gcacccccg     420
ccggagccgt ctcgcgtgcc gggaggatcg gactctttcc gtcacccgtt tgcacctctg     480
cagctgtcag gagcgggtca ggtgcgaaaa gcggtgcgga ggtggcgctc ataggttaca     540
ggggtcaggg tctggggctg gccgtggtct tcagttaccg ccgagcgtgc gggatccttc     600
tgcgcttgcc gcctccacgt ggcacaggcc aaggcgtggc cagatgggta gatgggtttg     660
ttgggtggtt gctagcagtt ccacgtaac aagggaagcg tatttgagag ttacttgatt     720
ctaacgagac tagcagattt gcacttcttg ttggaagacg ttagcatttg cacggcgagg     780
tctgtgaagc acaggccagg ccgtgctgct cagcttgagt aaacccctga cccaaggccc     840
tcagggtgtg agcactgact gcaccttccc taagctcggg tctcttcccc cagccttcct     900
ttcccctgtg gctttaacga tttgtagcac gatgcagttc aaatggctag gagtctggaa     960
cgtagaaggt gctgaattca ttgaaagaat acagtggttc tcaactcttg tttaagccgg    1020
ggttctttct atttatttat atattgagac acagtatcgc cctgtcgccg aggctggagt    1080
gcagtggtgc gatttcggct ccctgcaacc tccgcctccg attctcctgc cgcagcctct    1140
cgagtagctg ggattacagc cgcgcagcac cacgcccggc taattttttt tgtatctttra    1200
gtagagacgg gtttcaccat gttggccagg gtgctctcca actcctgacc tcgtgatccg    1260
cccgccttgt cctcctgaag tgctgggatt acaggcctga gccacagcgc ccagacagaa    1320
gggattcctt tttttttttt tttttttttt ttttgagatg agtctcgctc tgtcgcccag    1380
gctggagtgc agtgacgtga tctccactca ctgcaagctc cgcctccgt gttcacacca    1440
```

```
ttctcctgcc tcagcctccc gaatagctgg gagtacaggc gcccgccacc acgcccggct   1500
aattttgtag agatggggtt tcaccgtgtt agccaggatg gtctcgatct cctgacctcg   1560
tgattaattt tttgtatttt tagtagagac ggggtttcac tgtattagcc agggtggtct   1620
cgatctcctg acctcgtggt ccacccgcct cggcctccca aagtgctggg attacaggcg   1680
tgagccaccg catgccacct tttttttttt aagatgatgt cttgctcttt ggccaggctg   1740
gagtgcaatg gcgccatctt gtctcactgc aaaccgcaac gccctggttc aaagaattct   1800
gctgcctcag cctcccaagt agctgggatt acaggcacgc gccaccacgc ccagctaatt   1860
tttgtatttt tagtagagac gtggtttcac caccttggcc agggtggtct tgaccacctg   1920
accccgtgat ccacccgcct cgacctccca aagtgatgag attacagtcc tgagccaccg   1980
caccttgcca gcaggggttc ctttttagaa agaagatcat ttagggaatc cctggtgtga   2040
agcagatata aacagagttt ccctgtttaa ggagggatgg cctggtggta cttgtggttc   2100
catcctgtgc ccttccccgg ggtgctgggg aacatcctga gctgaggttt ctggccccgg   2160
ctgggtctca taaccccaga gggacattca ggtttgggcc caggcccagg ctaacatgga   2220
tagtcctagc tgggcaccac cgacagtgcg tgttctgttt tgaagagatg gggtcttgct   2280
ttgtcgccca gtctggcctt gacctcctgg gtaaaagccg tccaaccgtc tcagcctcct   2340
gaggagaggg gactgcaggc ttgctcggta attttctttt tttctttttct tttttctttt   2400
tttttttgac ggagtctcgc tgtcgcccag gctggagtgc agtggcgtga tcacggctca   2460
ctgcaagctc cacctcctgg gtacacgcca ttctcctgcc tcagcctccc gagtagctgg   2520
gactacaagt gcccgccgcc acgcccagct aattttttgt attttttta gagaccggtt   2580
ttcaccatgt tagccagaat ggtctcgatc tcctgacccc gtgatccacc cgcctcggcc   2640
acccaaagtg ctgggattac agacgtgagc caccgcgccc ggctttgctc cgtaatttt   2700
ctgtgtgttt ttgagactga gtctggctct gccgcccagg ctggaatgca gtggcatcat   2760
ctctgctcac tgcaacctt gcctttgggg ttcaagcgat tctcctgcct cagcctcccg   2820
agtagctggg atcacaggcg cccgccagca cacctggcta attttgtgt ttttttacta   2880
gagacggggt ttcaccatgt tgtttaggct ggtcttgaat tctggcctca ggtgattcgc   2940
ccacctcggc ctcccaaagc gctgggatga caggcgtgag ccgctgctca tggccttcct   3000
cggtaatttt aacgatcagg ttaggatggg aatcaagggc tggacttcag ggcacctcgg   3060
aggacagcgg atgttggtga ctgactttct tgctgcaggc ttatttggag ggttcctttg   3120
tgtcctagtt cctgggggtt ttcacccgct aacttcactt agagattgaa acttctccca   3180
cttccagaag ctgaatcgta gtgatcagcc tgcggccccc tgcagtggta caggcctggt   3240
tgagcagcct caggccgcct ccccatagtg cagacctgtg cctctgagtt gctccagtcc   3300
tggcggcccc ggagctcctg acccgcagtc cgctctgccg gcgttgccag tgccttggtc   3360
tgccctctct gtggtggagc ggggcccggg gcagggtctc caggtgcacc gtggggagcc   3420
ctccatcagg cttttgtttc ctgtggattg tgttccaggt gtgggctctt tcattttgat   3480
cccttctctc cttcctggcc tcactgctgg cgggtgagag aggtttctcc ggagttgact   3540
gcccccttttc cccgggtgcc ccctgccctg cccctctgcc tggtagcccc tctgcaagcc   3600
cggcccctcc cgacgctcct ggcttcctcc gtgcccttt cctggcagcg gggtcgccga   3660
gattcgcccg ttgctttgtc cttgctgctc tccaggcaaa cgggcggctc ctcctcaccg   3720
actgcctcct ctgtcccttg aggctatagc cccatgccgc ctcgttccca gagtctgccc   3780
tgacccctcc tccggcctgt ccttggaagt cacagcagta cattatccca gaactgtctg   3840
tgagcaccag cgctcgccct gcactccaca gaggggggtgc ctggaggaga gcctcgtgcc   3900
ctgtgggtgt gaattcacgc gctgggacgc acgtccctgg cacagggtca caccaaagtg   3960
gtgaatgatt gttctcattc taataaccga gaggccacac gggcacctga cctgctcttt   4020
cccctctcct cctccccaga gtcactgggg gtgggaactg tcaatgagcc attttcaggg   4080
gagggagtgg cctcagctta atccagccaa aggtccctc gggaggaaac aggcagagct   4140
cctcaccgtg acacccacgt tcctgtcact gctctgtggc aggaccctgg gggactgaca   4200
caccctcagt cccctcgggg tcagagtgag agtggttgag agcccggggt cgcttcagcc   4260
cttggcttcc cgagcttagc agccaaaccc gttgacctgg cactgtcttc cctgagaggc   4320
aggtcccggt ctcatctgtg ctctgttcac tggggccccc gaggttagct accaaggcgc   4380
ttcctgaaat gtgacgctga tgcccgtcag cccagttcgt gcctaaccac aggcccaagc   4440
agacccaccc caacaccaaa gcgtcgctgc ctctgtctaa atgcaacgag tgctccccac   4500
ggcacttccc cctgcgtcag tcacctccaa aaattacacc tgagctgaga acagacgctg   4560
ggctctagtt agtgacgtgt ttgctgcagt tgactctgaa ggcttaaaaa agtgagacgg   4620
gctgcgggag gaagagagac gggaacaacg caccaaccca ggagcatcgg gggtccctgc   4680
ctactttaca cgtctttctg tgttagaata atttttttt ttttgagacg gactcttgct   4740
gtctccccccg ctggagtgca ttgcttcgat ctctgctcac tgcaagctct gcctcccagg   4800
ttcacgccat tctcctgcct cagcctcctg agtagctagg actacaagtg cccgccgcca   4860
cgcccggcta attttttgta tttttagtag agacggggtt tcactgtgtt aaccaggatg   4920
gtcttgatct cctgacctca tgatccaccc gcctcagcct cccaaagtgc tgggattaca   4980
ggcgtgagcc accacgccct gctagaataa ttttttttta gagacggagt tgcgctctgt   5040
tgccccggct ggagtgcggt ggtgcgatct cggctcgctg caagctctgc ctcccaggtt   5100
```

2216

```
ccagcaattc tccagccttg gcctccccag tagctgagat cacaggcgtg caccaccaca    5160
cccagctttt ttttgtgttt ttagtggaga caggatttcg ccatgttggc caggttggag    5220
attttatttt tcttaagtct cactctgtcc agctggagtg cagcagtgtg atctgggtga    5280
ctgtagcctc tgcctccggg gttcaagcca tcctcccacc tgagcctcag agttgctggg    5340
attacaggcg tgaaccaccg cttcccacta ggttttgta ttttagtag aggttgggtt     5400
tcaccatgtt ggccaggctt tggtatccgt gtatcctaca cctgctctcc gtgccacatg    5460
cgcccgcagg ttacgccaag gaggccctga atctggcgca gatgcaggag cagacgctgc    5520
agttggagca acagtccaag ctcaaagtga gtgggccggg tgtgggcgag gaggccgggg    5580
cgcacatggg gttcaggcgt ggagattggt ggggctgcta ctggtgggta gggccagggg    5640
cgtgtacatg ggcagcagtg gggccagggc cgagcttggg cgcctcattt cacagaggga    5700
aacaagggga ggtgagagac gctgccacag agccgcccga gagggagggt cagtgttggt    5760
gagggcgtct ggtcgtcctg agggagggcc ggtgttggtg agggcatctg gtcgtcctga    5820
gggagggggt cttcttcaca ttctcacctc atttctttc actcagcagg attttttatt    5880
ttattttatt ttattttatt ttattttatt ttattttatt ttattttatt tgaaacggag    5940
tctcactctt gcctaggctg gagtgcaatg gcgcaatctc ggctcactgc aacctccgcc    6000
tcccgggttc aagcgattca tctgcctcag cctctggagt agctgggatt acaggcacgc    6060
gccaccacgc ctggctaatg ttgtatttta gtagagacgg ggtttctcca tgttggtcag    6120
gctggtctct aactcccgac ctcaggtgat ccacccgcct cggcctctca aactgttggg    6180
attacaggca tgtgccacca cgcctggcta atgttgtatt ttagtagaga cggggtttct    6240
ccatgttggt caggctggtc tctaactccc gacctcaggt gatccacccg cctcggcctc    6300
tcaaactgct gggattacag gcacgcgcca ccacgcctgg cctatttat tttattttga    6360
gacagagtgt cactctgtcc cccagtctgg cgtgcaatgg tttgatctcg gctcactgca    6420
acctccacct cccgggttca acctcctgcc tcagccttcc gagcagctgg gactacagga    6480
gcctgccacc acatctggcg aattttgta tttttagtag agaagggggt tcagcatgtt    6540
gtccaggttg gtcttgaact cctgacctca ggtgatccag ccactttggc ctcacaaagt    6600
gctgggatta taggcaagag cgatggcgcc cggcccactc agcaggattc ctagaatggg    6660
cacgagctct gccctcatca cagtccaaaa gtgagcacct gcctggagct gcccagaaac    6720
agccttgtgg ggtgggggttg gtgtctgacc ttcctccccg ggggccttcg caggcttctc    6780
tgctggtgct tctgtgcctg tgggtctgga ttcctccagg gcctgatcct gggtgcagat    6840
gcagctggaa gccctgaacc tgctgcacac actagtctgg gcacggagtc tctgccgtgc    6900
cggagctgtg cagacacagg agcggctgtc aggcagtgcc agccctgagc aagtgccagc    6960
tggtgagtgc tgtgctctgc aggagtatga ggccgccgtg gagcagctca agagcgagca    7020
gatccgggcg caggctgagg agaggaggaa gaccctgagc gaggagaccc ggcagcacca    7080
ggccgtaaga gcgcaagagg ccgcgaggga ggcgcccggc tgcggggagc ggcctggggc    7140
aggactggga gctgggtgtg gtcccggggc actctggagt cagccattag agctgccctc    7200
ggaacggcct tgcacaaacg cctaagacct gtaaggtccc tcactgctga gccggacggg    7260
aggtccccgc gcctccccac gtttgtgtga ggctgatggc gcgtcggagt ccccggcgct    7320
ccgcccagtc ggcccagact gcagctcccg gctgagatgt gtctttgccg ccctcttctc    7380
cccagagggc ccagtatcaa gacaagctgg cccggcagcg ctacgaggac caactgaagc    7440
agcaggtgag ctcagcctcc cctgcgaggc gcctgcgtcc ctgagaacgt aggtggcttt    7500
gtgggaccag tcagtgggtc agaggccacg gggcaagaac gctgggggttg ctgacggtgg    7560
gtgctagagc aggggaaact actcggacag acacgcacca gcacacgtgt acaggcacac    7620
atgcagatgt gtgcacacat gtacacggag acacaggcac ctgcccacac ggacacacac    7680
tcctcgcaca cacactcccg gcagacaggc acacacaccc ctgcacacat gggcacacac    7740
acacccctgc acacacgggc ccacacactc ccctgcacac atggggaaac atgggcccac    7800
acacacacac ccctgtgcgc acacacccct acacaggggc atggacagac acccgcaaac    7860
acaccccac acaacacggg cacgcacaca cacaccccgc cacaacacag gcacacatac    7920
ccctgcacac aggcctgcac atacaccccc acacaggggc atgctcacgc agcccgcaca    7980
cacacaggta tgcagacaca cccaaacaca catgggtccg caggcacaca ctcccgcatg    8040
gggcatgcac gcacccccca cacacacccg atcacacata ggcatgcaca cccctctgca    8100
cacatggggg cttacacacc cccccgcaca cgtgggcccg ctcacacagc ccacacacat    8160
accccttcac acaggcacac accgccccgc acacacgggc ctgcacacac accccacac    8220
gggcatgcac acgcccacac acacgggcgc gcacacaccc ggacatgcac aaacacccac    8280
ctgcacacac gggcacaccc caccacacac acacacaggc atggacacac gcacacccc    8340
tcacacatag gcacacatac acaacccagg cacacacccc cttgcacaga cgggcacgca    8400
cacagtccca cacatgggca cacgcgcaca ccccgcaaa cacacacacg gcacgtgta     8460
cgcacccca ctcacagtgt gcctcataca tacgggcacg cacctgcaca cgagggcaca    8520
ccccaccc ccacccccac acacccccgc acccatgggc acacacat tactgcacgt      8580
gagggcatgc acacacgc cctgcacacc cccacacaca gacccttgt gtgggttcca       8640
cagcagcggc tctccaggca cgacaagcct ccttgtctcc cacccgggcg cccagctggc    8700
agtctgggag gttctgcttg ggagggctgg tcagtggcgg cgggcgggtc tctgggtcta    8760
```

2217

```
tgagaaaagc ttgggtgaca tctgttccct ggtccttagg gaccgtcacc ttcagtcctg   8820
agctcgcagg cggggttcac atgttgcctg ttgtgggcat tgtagcttta acgtttaatt   8880
ggcggaagac agaagcttcc ttaagcccag cctgaatcag ggcagtggtg ttgggaggtc   8940
ggcccgcggt ggcccttgtc agggaagcca cagtgggggc tgtttctgcc actggggagt   9000
ttgggaccct gaacccatcc cctcagtgac tgccgtccca gccgatgtca cccgtgtctg   9060
tgtcagggtg cggcgtctgc aggtccccag gtgcccagga cgcttggagt tctgtggtcc   9120
tggggcggac gcaacctctg gattggtgtt gagcattttt ctggttttaa aggcttttct   9180
ctttttctgc ggcttcttct cagcaacttc tcaatgagga gaatttacgg aagcaggagg   9240
agtccgtgca gaagcaggaa gccatgcggc gaggtaggct gtctgctctc ctggctgggg   9300
cggaggtggc gggggctgct tgtggacccg gcgtgcactc tgagcctgag ttctgccgcc   9360
cggcccctca tagctaccag tgcagtgggc gaggcctgct ggggctccgc ggggtggggc   9420
tgcctctcgg aagacacctc tgtctgcgag tggacgccag gatctgttca gggagggcag   9480
gagctgcttc acttcatggg aagtacaggg gcctttgttt ttttttgag acggagtctc   9540
gctctgtcac ccaggcagga gtgcaatagc acgatctcag ctcactgcaa cctctgcctc   9600
ccaggtttaa gcaattctcc tgcctcagcc tcccgagtag ctgggattat aggctcccgc   9660
caccacgccc agctaatttt tttgtatctt cagtagagaa agggtttcac tgtgttggcc   9720
aggctggtct tgaacttctt gatctcatta tccgcctgcc ttggccttcc acagtgctgg   9780
gattacaggc gtgagcctct gcgttctgcc tagaacatgg gtctttactg tcctggtttc   9840
agtggggatc acaggtattt ggtgccatgt ggcatttgtt ggcgagtgct ccaggcaaac   9900
gtctgtcacc actcttcact gtgggtgggc ttgtggcgag gtgtgtgcgt ttaatgttca   9960
gtagccaggc acgtggcacg tcacgcgtgt ctgagttctg acagctgtgt ttctgtgtga  10020
gggggcttc cttcagaact ccgcgttctg gttttttgct tcaaagagct cgtcctgaga  10080
agttgcctag gcctctgggt cggatttctg ccctaatcca tgggcagggc cggcctgtgg  10140
cgctgtccct accaaggtct gtgtgtgtct gtggcacggg cctgtccatg gactgggctt  10200
gtccgtggag tgggtcggtc catggcctta gcctgttggt ggcgtgggcc ggtccacggc  10260
atgggcctgt ctgtggcgtg ggccggtccg tggtgtgggc ctgtccgtgg ccttagcctg  10320
ttggtggcgt gggccggtcc gtggcatggg cctgtctgtg gcgttggtct gtccgtggcg  10380
tgggccggtc cgtggcgtgg gccggtccac agtgtgggtg gaggtggacg tgctgcactg  10440
catggtgctg agctgcccta cctctctggg gcagccaccg tggagcggga gatggagctg  10500
cggcacaaga atgagatgct gcgagtggag accgaggccc gggcgcgcgc caaggccgag  10560
cgggagaatg cagacatcat ccgcgagcag atccgcctga aggcgtccga gcaccgtcag  10620
accgtcttgg agtccatcag gtgagcactg ccgaggcccg ggccggccac agatggagcc  10680
ccgcaggtgt gagtcgctgg tcccagggcg ctctccagct cttccaggcc tggccgccgt  10740
aggctgactc cttggtgggg gcactgcctc ctgtcctggc aaggccgtgc cgccatgtca  10800
gggcctcacc ctcaacctgc tctcgctgcg tggtacggat cttcgtgtcc ttcctggtca  10860
caccactgct ttccccgcag gacggctggc accttgtttg gggaaggatt ccgtgccttt  10920
gtgacagacc gggacaaagt gacagccacg gtaaacatac tcataaaaca gggctggcag  10980
gtggctgaga ggcagcatgt gggggcctcc tggagcccca ggtcctgtcc ctgccggctc  11040
tgcacagccc tgtagctctc ccagcacaga gcaaacccac gttgtacctg ctgggctcgg  11100
ctgctcctcc ctccttgagc tgggagaaaa aaatgcagtt gccagcctgg ccacacggt  11160
gagaccccat ctctacgaag aataaaacat tagctgggtg tgatggtggc gcctgtggtc  11220
ctgctactcg agaggctgag gtaggaggat cacttaagcc caggaggttt gggctgcagt  11280
gagccaacat tgcaccactg cactccattc ttggcgagag aataagacct tgtctcaaga  11340
aaaaaatggc caggcggtag tggctcaggc ctgtaatccc agcattttcg gaggcggagg  11400
tgggcggatc acgaggtccg gagatcgaga tcatcctggt aagagtgaaa ccctgtctct  11460
actaaaaaaa agaaaaaaaa agaaaaaaat tagctgggtg tggtgacatg tgcctgtaat  11520
ctcgggaggc tgaggcagga gaatcacttg aacccgggtg gtggaggttg caatgagtcg  11580
agatcccgcc actgcacccc aagaccagca tgaccaacat ggtgaaaccc catctctgct  11640
aaaaatacaa aaattagcag gccaaggtgg cgtgcgcctg gaatcccagc tgcttgggag  11700
gctgaggtag gaaaattggt tgaacccagg aggcggaagt tgcagtgagc tgaaaccgca  11760
caattgcact ccaacctgtg gaagaagagc gaaactctgt ctcaaaaaaa caaacaaaat  11820
aaataagcca ggcctggtgg ctcactggtg taatcccagc actttgggag gccaagacgg  11880
gtggatcact tgaggtcaga agttcatgac cagcctggcc aacatggtga aaacccatct  11940
ctactaaaaa tacaaaaatt ggccgggcct cgtggcacag tctgtatta gctgagtgtg  12000
gtgacctgag cctgtaatcc cagtcactcg ggaggctgag gcaggagaac tgcttgaacc  12060
tggaaggcgg aggttgcagt gagccaagat ggcaccattg cactccagcc tggccacaga  12120
acaaaacct ttctctaaaa acaaagtcaa gggcgcatta agcagctcct tcatgttctc  12180
aggtgacacc gtctcaccaa catggcaaca ccacctgcaa cattcaccgt cacactgacc  12240
aggccaccgg caggtgctgc agtcacagca gtgggcgccg gcaccacggc agagcaagtg  12300
cccactcagt gccgggcacc tactgtgtgc tgggcggggt ggggggacgg aggacacagc  12360
catgtgcgac ctggggcgcc accacagcag gccagagcct gggcacaaaa gagcgaggct  12420
```

```
ttaaacgaga gaagaatctg aacttcaaac tctcagggtt ttattccgaa taacgaaagt    12480
ttttgcgaaa tggagtcggg ttcgctttct gggtctttga tttttttttt tttgagacag    12540
agtctcactt tcaagtgtgc tgctcaagtg cagtggcgcg atctcgactc actgtcagct    12600
tcgcctcttg ggttcacacc attctcctgt ctcagcctcc ggagtagctg ggactacagg    12660
tgtctgtcgc cacgcccggc taattttttt gtatttttag tagagagagg gtttcatcct    12720
gttagccaag atggtttcga tctcctgacc tcgtgaatcc gccgcgtggg cctcccaaag    12780
tgctgggatt acgggcgtga gccaccgtgc tcagccacag ccagctaatt ttttcatgtt    12840
tttagtagag acgaggtttt tccaggttgg ttaggctggt cttgaactcc aacctctggt    12900
gatacgccgg ccttggcctc ccaaagtgct gggattacag acctggccag cctaaacgat    12960
ttttaaaaca agttagagat tttgggttag tcttgttttc caggaataaa gtaccatttt    13020
tagtggccaa ggatgtacca gagggtgtgg ccctgtgaca tccagctggg tctgcccagg    13080
gccccgctca gcgaccgagg ctttctagga tttatgctgc cagttgcaga gaaaatggcc    13140
ctgagtgagg gcgttatgac tgccccacct gcctcctgta accgcgtggc tgtgggattc    13200
ggggctggga attcgggttc ctgtggggcc agcacacggc cctgtgcttc tccctcaggc    13260
ggagagaggg tgggggcagc cccgtgcgtc tcctgctcta ggagggaggg acggtggggg    13320
ccggtgcgcc agtgcggtgt ctctgctgca ggtggctggg ctgacgctgc tggctgtcgg    13380
ggtctactca gccaagaatg cgacagccgt cactggccgc ttcatcgagg ctcggctggg    13440
gaagccgtcc ctagtgaggg agacgtcccg catcacggtg ctggaggcgc tgcggcaccc    13500
catccaggta gcggcgcagg cctggccctc cctgagtgca gttcctggct gagtcccttc    13560
tgccccacga gcacagccca cgcacaccct cccgtccctt cccttttcccc ggataacagg    13620
caccgcacg ctgcttcacg ggtgggtttt cctgtctggc gctgtacctt aggggtctgc    13680
atcagtgaga cccttcccct gtctgcctcg gtgtcccttg ctcagggctc ttgatggggc    13740
ctgggagcac atcggggtcc ttgcaagacc cgggacttgg gtgtgcggcc gtctgtcggg    13800
gaagctgcta caggccatgg cgtctggtgg cctccctggg gagccgcgcc gcttgccagc    13860
ccctgaggtg cctgctctcc acaggtcact gggtaggtgg ttaagaaaat aaaagccaat    13920
aaggaaccgg aaaatgcccc aatcccagca atagcctcct ggtctcccgg cggggcaggg    13980
ttccagctcc gggccggtcc tggctgtgct ttggggcagc tccgtttctg tgtgttaccg    14040
agcatgtgtg tgcgttggtg gctgttccgt ggctgtggca ggtgacccaa tggtgcttcc    14100
ccttcccctc cggcaggtca gccggcggct cctcagtcga ccccaggacg tgctggaggg    14160
tgttgtgctt agtgtaagtc ggtgtgcctg ggaccgggga ggtgcaggga ggggaccccg    14220
gagctgggct gggctgtggc ccttgctagc gctcgtggtg gcgcccagga gcttttgggt    14280
cctgagatgc aactgcttgg actgtgccgg ggatagatag gctgcccacg agctgggcgg    14340
cttcctgagg agcagagtcc gcacccgggc attcccgcag cccctgtcac cgaggcttcc    14400
gtgggtgcag agtgtctccc ccaaacccccc gtcttccccg gcagcccggc ctggaagcac    14460
gggtgcgcga catcgccata gcaacaagga acaccaagaa gaaccggggc ctgtacaggc    14520
acatcctgct gtatgggcca ccaggcaccg ggaagacgct gtttgccaag gtgagagcgc    14580
ctggctgaac aggtgggcca ggggccgctg gggtctcacc tgcctgcagg tgtctggggg    14640
cctcagccgc ctggggaatg gacccccctt aggcctttgc ctaccctcgt gtaggctcag    14700
ggtgctggtg tgggcagcag cgcctcccat cttccaggcg ggggacgtct cctgtctggc    14760
aggctgtggc ttccagacag ggacaccgg caggggctcc acactccagg tggagtgtgc    14820
aggctttgca gaggcagagg gaacatctgt tctgtctccc ctcactcttc ttgtccagaa    14880
actcgccctg cactcaggca tggactacgc catcatgaca ggcggggacg tggccccccat    14940
ggggcaggaa ggcgtgaccg ccatgcacaa gctctttgac tgggccaata ccagccggcg    15000
cgggtgagac gtccccacag catgcaccag gcccttggct gcggcccagc aggctgcctt    15060
ctgggaaggg ggtccaggtg tctcttgggg accctgtctt tctgcagctc tgtccttgtg    15120
gccacgcagg aggcccaatg gagggtccct cggagggaaa gtccctgag tgtggaccct     15180
ggtggacacg aggtccccag cgtgtggagg ctgccagtgg gatacttggc tcagggcaga    15240
agggaggtgg gtgggtgcag ggggagaggg gtcttcacag ctgcaggga ggctcctcca     15300
cagccgccct ccccccaaca cgcctgcagg tgggcgtggg cactggttgc ctttttctaga    15360
accatttgaa agttagctga agacagcatg gcacactccc ttcaataggt cccacagtga    15420
ccccgcgcag ggcacagccc gggcacccctt gtggcctcgg ctgtcctcgt tggaaccacg    15480
atcctcatgg ttggcaccct ccctctggc ctttgacctt tcactttaga agacctgtcc     15540
ctgcgccagg cgtggtggct cacggctgta atcccagact ttcggaggcg gaggcaggca    15600
gatacgaggc caggagattg agaccatcct ggctaacttg gtgaaacccc gtctctacta    15660
aaaatacaaa aaattagcca ggcatggtgg tgggcacctg tagtcccagc tactcaggag    15720
gctgaggcag gagaatggcg tgaacccggg aggcagagcc tgcagtgagc cgagattgcg    15780
ccactgcact ccagcctggg agacagagcg agactctgtc tcaaaaaaaa aaaaaaagac    15840
cctgctcctt gcgtggactc ttgagcactg cactgggtcg ctgtgtgggt gaaacctgca    15900
gggcggaggc tgttgcccca tgtgtggttg ctggtgtgt gggtgaaacc tgcagggcag     15960
agtctgttgc cccctgtgta gttggtttcc cactgccttc tgaggctgag acgtggtcag    16020
ctgcccagag gccaggctga tcggcttctg tcgagtccag gacttagggc tcctgatggg    16080
```

```
gcagagcctg accccgtggg gatctgcctg cctggcctgc tcctgccgcg gccggacgct 16140
gctgtgggct gctcctggcg tcactctcgc cttgcttggc ctctctctcg ttcacagcct 16200
cctgctcttc atggatgaag cggacgcctt ccttcggaag cgagccactg tgagtgtcac 16260
taagcctctg tctggccaca ggagggtggt cgggtgggcg cggctgtcat cctgggccag 16320
gctgcagccc ttaagctggc ttgcagtggc gcaatcttgg ctcgctgcaa cctctgcctc 16380
ctgggttcaa gctgctctcc tgcctcagcc ccctgagtag ctgggattac aggtgtttgc 16440
caccacacct agttaagttt tttgtatttt tagtagagat ggggtttcac catgttggtc 16500
aagttggtca agaactcctg atctcaaatg atctgcccac ctggcctccc aaaatgctgg 16560
gattacatgc gtgatccacc acgcccagcc atacagttat tattttaata cagggtgtct 16620
gtcgcccagg ctggagtgca ggggcgacat ctccagctca agcagtcctc ctgcctcagc 16680
ctcccgagaa gctgggattg cagaggcaca ctaacacgcc cggctaattt ttttgtaacg 16740
ttagtagaga tggagtttcc cacattgtcc aggcagggct caaacttctg aactaaagaa 16800
attcaccggc cttggcctgg cacagtggct cacgtgtgta atcccagcac tttgggaggc 16860
caaggcaggt ggatgacgag gtcaggagtt caagaccagc ttggtcaata tggtgaaacc 16920
ccgtctatag taaaaataca aaaattagcc gggcgtcgtg gggcacgcat gtaatcccag 16980
ctgctcggga tgctgatgca ggagaatcgc ttgaacccag gaggcagagg ttgcagtgag 17040
ctgagatcgt gccactgcac tccagactga gagacagaac aagacttcgt ctcaaaaaaa 17100
aaaagcgaga gatttgatcg ccttgacctt ctgaagtgct aggattaaag atgtgagccc 17160
tcagtcaggc ttttttttta aatgtatttt ttattttta gcaattctca tgcctcagcc 17220
tcccaagtgg cttgagatta caggtgtgcc accatgcatg gctaattttt gtatttctag 17280
tacagatggg gtctcaccat gttggccagg ctggtctcaa actccctacc tcaggtgatc 17340
cgcctgcctc agcctcccaa aatgctgggt tacatgcttg agccaccgcc cctggccctg 17400
gtcaggattt tgagtttaga tccatgaaag tgtcgccacg tccctgctcc ctgcaggagg 17460
gaggcctgtg ggactttctg ctctggctgt ttacaaggct ttgcttctgg tgcctaaggc 17520
tggaaccttc tctctgcagg aggagataag caaggacctc agagccacac tgaacgcctt 17580
cctgtaccac atgggccaac acagcaacaa gtgagggagc ccctcgggtc ctgagccccc 17640
gggcagggct gtgcagccgt cgcccttggt tcccactgag ggtccctggc tcacagtgct 17700
gggcaccagc tgtggcctca gtgtgcccac ctcagatgtc ccctgggaac ggcccagctc 17760
gggacagcac ggggtgtcat tgaggaacat gcaggggcct cccgggcaga gctggggtca 17820
gtcctgtctt cacggccctg tgcgccgccg ccccagcttg caggtccctc tgcccctaga 17880
tttctgcggt cctgtgcctg caagggaggt ggtctgattg ctgccgccca gaggtcccca 17940
gtagggtgac cggccctatg tccaggctcc ctcttccctc ccaaatccct taattttgag 18000
ttttcttggt ctcctgggcc cctccagccc cagtcacgtg tcacacggag gatcaagtcc 18060
tgctggtcgg ccgtggctga ctcttcaggc acgttgggct cctgggtcag ctgctgccgt 18120
tcgacgctcc ctggagccct gactcaggtc cttcccagag aggcaaggct ggggccctgc 18180
tgagcctctg ctgaaccgg gccccgagg tcctgcttct ggctcgcatg gccataatct 18240
tgacagggac tctgggtccg catccctgct cccagcacag cgggctcagg tagcaggagg 18300
gagtggtgtt cccggcactg cctatcaggc tgggcgacgg tcagcgggga agtaccacac 18360
ggggcgagaa cagaggcccg agaagccggg cggggggcag ctgggcgtgg tggggcaggc 18420
aggcgggtga ccagggctgt ggcgcgttct ccccatgttt cctgtgctca caagctgccg 18480
ctttagattc tcccaaaaag tctccccgag ggggctgagg agccgttttg ccctcggcga 18540
tctcagctgg cagccccagc gtttccttcc ccatccctgt cctacagatt catgctggtc 18600
ctggccagca atctgcctga gcagttcgac tgtgccatca acagccgcat cgacgtgatg 18660
gtccacttcg acctgccgca gcaggaggag cgggacgcct ggtgagactg cattttgaca 18720
actgtgttct taagccggcc acagaaggaa aacggtgagt gtcccgcctc acccggcccc 18780
caatccaggc accatatggc atgggtgtag gccagctgcc tgtcttccgg cctccacctc 18840
atggtgtggg gtccgcggcc ttggctgcct cacttgggaa ctccttcccc aggcgcctga 18900
agctggccca gtttgactac gggaggaagt gctcggaggt cgctcggctg acggagggca 18960
tgtcgggccg ggagatcgct cagctggccg tgtcctggca ggtgagtcag gctccggcac 19020
gtccacccag acgggacccc agctgctgtg gagatgctca gttgcgccag gcctgtccca 19080
gcaccggtgt catgtgggag cttctgttga ggggtttttca gtgcacagac gtgacacagg 19140
gcccctgcc tcagtcgggc cactccacgc agcagcgtgc acctgctcgt gccctcagga 19200
gggtggggcc atgttggttg ctgacagtca cacggggctc tctggaagcc agtccagcat 19260
cccaggtgcc cgggctctgc tgggtgtggt gggaggtttc tggctctcat cttggccaac 19320
aggcacctcc tagagggaat ggtcgtcagg acaggccccg tgtgagttgg gtggtggggg 19380
tggagggacg ttgtgtttcc tggaccaggt cccttggctt ggtcctgttt gacgggttca 19440
gacacacggt gggactggcc tccgattgtc ccacagttag ttgttcctcg gaggcacccc 19500
tcctgctgct ccttggatac tccagggccg aggagccgag actcactgga gtgtgggcat 19560
ggccatccag agagctctga tcaggccggg cgcggtggct cacgcctgca atcccagcac 19620
tttggaggc tgaggcaggc atatcacggg gtcagattga gaccatcctg gccaatatgt 19680
cgaaaccccg tctctactaa aaatacaaaa attagctgag tttggtggtg catgcctgtt 19740
```

```
atcccagcca cacgggaggc tgaggcagaa gaattgcttg acccgggggag ttggaggttg   19800
caatgagcca agatcgcacc accgcactcc agcctggcca aagattgaga ctccatctca   19860
aaataaaaga aagctttggt ctttgggggt tgctgaaaaa gcaaaaccag gtctgtgggg   19920
tagaaggcgc cctggccaca cacaggcatt gccgcctctg gggtccgcag agtctgtgtg   19980
acaacctggt cactcgatct agcagcgtat ttgaatgaat gagtgacagc ttaatgaagt   20040
agccaagtac cttgatttga acgtaggagc cggggtatgt agggagctgt attagtcagt   20100
acaggctggg ttatgccgct gtgacaaaga gtcccagatc tcaaaccccg tccttgtggg   20160
tcagctgagg tctctgttcc aggccgtccc cacttggaac caggtctgtt ccacaactc    20220
agaaagtgga ggctgggtat ggtggtggct gacgcttgta ttcccagcat ttggggaggc   20280
caagtcagtc agattatttg aagccagggg ttcaggacca gcctggaaag caaggtgaga   20340
ccccatctct acaaaaaatg aaaaaattgg ccggacctag tggcacatgc ctgtaatgcc   20400
agctgcttgg gaggctgagg tgggagggtc acttgagtcc aggaggcgga ggctgcagtg   20460
agctgtgatt gtgccactgc actccagcct gggttacaga gcaagaccct gtcttaaaaa   20520
ctgagaataa tttggaacaa gcccggtggc tcactcctgt aatcccagca tgttgggagg   20580
ccaaggagag aagatcactt gaggtcagga gttcaagacc agcctggcca acatgatgaa   20640
ccccacctct acaaaaaata cgaaaattag ctgggtgtgg tggtgggtgc ctgtaatccc   20700
agctactcag gaggctgagg caggagaatt gcttgaaccc acgaggcaga ggatgcggtg   20760
agctgagatc atgccactgc actgtagcct gagggacaga gtgagactgt ctcaaaaata   20820
ataataagaa gaataataat ttgggctggg cacagtggca catgcctgta atcccagcac   20880
tttgggaggc cgaggtgttg gatcacttga ggtcaggagt tcgaggccag cctggccagt   20940
gtgccgagac ccccacctct actaaaaata caaaaattaa ctggacgggg ccgggtgtgg   21000
tgacttatgc ctctaatccc agcactttgg gaggccgagg tgggcggatc acggggtcag   21060
gagttcaaga ccagcctgga caacatggtg aaaccccatc tctactaaaa aataaaaaaa   21120
ttatccaggc gtggtggctg gcgcctgtag tcccagctac tcaggaggct gaggcaggag   21180
aatcgcttga acccggggagg tggaggttgc agtgagctga gatggtgcca ctgcactcca   21240
tcctgggtgt cagagcgata ctccatctcc aaaaaaaaaa aaaagaaag aaattaacct   21300
ggtgtggtag caggcacctg taatcccagc tgctcgggag gctgagtcag gagaattgct   21360
ggaactcagg aggcagaggt tgcagtgagc taagatcacg ccacagcact ccagtctggg   21420
cgacagagcg aaactgtctc aaaatataaa tgataacagt aataatttgg cttggcacgg   21480
tggctcttac atgtagcatt ttctacacat aagattatgt cacctgagaa caggtgattt   21540
tacctctccc ttttcagttt ggatgacttt tcttttttctt gtcccatatc tctggccaga   21600
gcttccagcg atatgtggaa tagaagtggt cagaattctt gcttggttct ttctcagagg   21660
aagctttcag ttttttcacca ctgagtatgt tagctgtgga cttgtgatcg ctggccttct   21720
ttgtgtttag ggcatgttct tcaatcctgg tttgttaatt ttttttgttt cttttctttt   21780
cttttggtgg ggggaccagt ctcgcttttg ccgcccaggc tggagtgcag tagagacagg   21840
gtttcaccat gttggccagg ctggtctcga actcctgacg tcaggtgacc tgcccacctc   21900
agcctcccaa agtgctggga ttacaggtgt gagccactgc aaccgaccag ttgaattttt   21960
ttttttttaat cataaaagtg tgttgaattt tgtcaaatgc ttttcctgca tgagatgaga   22020
gggtcatgtg gtttccttcc tccactctgc taatattgat tgattttcat atattgaact   22080
atccttgcat tccaggaatg aatcctgctt ggttagggtg tagagtcctt taactatact   22140
gctaaattcg ttttgctggc attttgttga ggactttccc agtgaggctc atcagggata   22200
ttggcctgcc atttctcttg tggtgtgttt gtctggcttt aatatgaggg taatgctggc   22260
ttcctaggat gagtgaggaa atgttcttca atttgtccaa gagtttgagg agtggtactg   22320
attcttctta atgttttgtg aattcacatg tgaagaaatc aggtccaggt cttctctttg   22380
acctttttata gcttgaagat cttaggttcc cagaaaaatt gcaagggtag cacagagagc   22440
tcccgggccc ggggccttcc cacatggtga acatcatgtg tcactgttgg acccacccgc   22500
gaccaggttt tgccccagaa tcccacccag gaggccacgt gacatttagc tgtcacttct   22560
ggtgggctcc tgccaggtcc cgtgcttcct ggaggggtgg ccctgtgagc atctgcgtag   22620
cccctctcct ctgctgggcc ctgggtgacg tgcagccact cgggtggacc ctgagggtcc   22680
ctgcacctgt ttgccctctc ttgggtgggc tcaagaccaa aaatgatgtt gagcagtcct   22740
gggcccctga gccacagtgg cggtgcggct ccggtcagtg tctcctgcgc tcccgggccc   22800
ccgacccaca gtggcggtcc ggctctggtc agtgtctcct gcgctcccgg gcccccgacc   22860
cacagtggcg gtccggctcc ggtcggtgtc tccccacaca gtggctcttg gcgagggggtg   22920
ggcgctggca gaggggacgg gcaccacgtg gtcatcccca tgacaggttc tgtcatggtg   22980
acagtgttgt gggaggatgg tgtgctgctg cccctgcacc ccgtgagatg aatcctgcct   23040
ctgggaggta cagctgggac ggggcgaggg acccactcag ctgtccagga agggtcccct   23100
gccctgtgct tcctccaggt gtcctggtgc actcctgagc acggcaccta gtggggggtcc   23160
ccacaccctc accctgaccc atgggtgcct ccccttgggg actccacgcc cttcgctggc   23220
actgagatgg agagcgacct gtccgtggca gaagggctgc tgcacctgag gtgcctaagg   23280
cgacaccaag ggccacagcc ccagtagctc cagcctccgt gtgctcaatg ccaagcccctg   23340
tgcccaggag gacagggaaa tggaggcaga ggtggccttg atgtcccaag gtgggcagtg   23400
```

2221

```
gctgcctctg ccctggaggc ctgtgagggt cagggtctga gggtctgagg tgcactatga   23460
cccgggggca ctgcctggcc acggctgaga ctcgcagagg gtctgcagtt cccacctgcc   23520
tctcggaagc tgccctgggt cagccgtcag tggtgctccg ccttgggttt tctattatca   23580
gaaagtcatt gagcaacagc agtgctgagg acgcaggcag ggctgtgggc actgcagggc   23640
cgctgccagt gtccacatgc gtgctggctc tgccaaggtg tgggaagcct gtgtttcacc   23700
ctgaggttgt cctggtgccc ctggtttggc ccctccccac ctcggggccc tggcgtgcat   23760
taagggtggc gggttcccat agcggcctcc ctcagctccc tctctcttca ctaggccacg   23820
gcatatgcct ccaaggacgg ggtcctcact gaggccatga tggacgcctg tgtgcaagat   23880
gctgtccagc agtaccgaca gaagatgcgc tggctgaagg cggaggggcc tgggcgcggg   23940
gtcgagcacc ccctatccgg agtccaaggc gagaccctca cctcatggag cctggccacg   24000
gaccctcct accctgcct tgccggcccc tgcacattta ggatatgctc ctggatgggg   24060
actgggctgt gcagggacct ctgtccccca ggatgtcttg tggtggcggt cggccgttct   24120
gccccccagg gcacccctg ttgtaggcac tggctaggga ggggcaggcc tccttcctgc   24180
ccctcgagac actcttggga gatgcatttt ccgtctggct cacagggga gggtgaggct   24240
ttgtacccca gccctgccc aggccactgt gagggtgggt gctggctgag ccctgggcg   24300
agaaggagtg gggcaggcgg ggtctttgtt ctcggctccc acagcagagc caggtgaggg   24360
ggggcctgcc aggactagac agaagtgggg cggcctgaac cctgcttcca gccatggcca   24420
ggggccacgg aacccggcag gggtgtctga ggccgccctg tcagctggcc ggtccaagcc   24480
tgtggctgga ctggtgtgt gtttatctaa taaagtccca caggtgcctc acc            24533
```

<210> 2154
<211> 490
<212> DNA
<213> Homo sapiens

<400> 2154
```
atgtcaacta ctgactagaa ctggtggaaa aggttgttta ctgaaactgc gaggaaggta    60
gactttaaaa tgcaggacaa agactgaaca tactgatata ctgattcttt gaagggaagt   120
ttagaactca ttgtatctaa cattattcag gcttaaaaca gtttccaatc cagtgggaaa   180
agtcactcca tatattccgt gaagtcaacc agttccatca aggagaaagt cagggccgct   240
gggagcgcgt ggaccgtggg ctccggggcg gcgcctgccc gggcaccccg gccccgtcca   300
cgccccgcaa gaggagctcg ctggccccgc cacgcgggaa ggggtcgccc cggggtcttg   360
ggcgggaggg ccgtgcgggc tgcggagaca ccgaggaggg gaggcgcctc tcctgagctc   420
ttggcgcagc gaccccaggg cgccgactca tcgcggaagg gctcggcttg cccgggcgcc   480
ggtgccgcct                                                          490
```

<210> 2155
<211> 318
<212> DNA
<213> Homo sapiens

<400> 2155
```
aactggtgga aaaagttgtt tattgcaact gcgaggaagt tagactttaa aatgcagaac    60
aaagactgaa catactgaca taccggttct ttgaagggaa atttagaatt cattgtatat   120
aacattattc aggcttaaaa tagtttccaa tccagtggga cgagtcactc catataattc   180
tgtgaagtca accattccta tcaaggagag agtcggggcc gccgcgagcg cgtgaaccgt   240
gggctccggg gtggtgccga cgcggctgcg ggccgggact gacgttgcgc cgggttcgag   300
tactcccctc cggagttt                                                 318
```

<210> 2156
<211> 3241
<212> DNA
<213> Homo sapiens

<400> 2156
```
ttttgatgat gagctcctag cttcaaagtc aggacccagc ggggctccac gaaagcctgg    60
gcgacccagc cactgggcct aagcctgacc tgctgcaccc ctgcctccct ccacagttgc   120
cgaggtactg tctgaatgcc gcctgctcgc ctacatatcc caggtgccca cgcagatgtc   180
```

```
cttcctcttc cgcctcatca acatcatcca cgtgcagacg ctgacccagg tgagaggccc        240
cggcagacac acagcaggga aggtcgattg gaaaccactt cctttgtcct ggtgcccagc        300
aggtttctgt cccccactcc agaagtgcgt ctctggagac ccagctcttc tgaggactgt        360
gctcaggagg aatcagtgtc ccattgtaca gacagggcct aaggaaggag ggctcgcaag        420
tgccctcagg tcacaggctg acttgcaggc cagtgctctc cccgcctccc ccatgtccac        480
gtccctcaca ccttctgccc tgctgggctt tggaatcgga cctgaggctg cccaactccc        540
tcactgaata gtcatgcagc cttcccttct ctgagcctcc tgcccctctt ttctagagtg        600
agggtgatct tagcacctct cagaggtggt cttttggttcc gttctgaggt gaagcaccag       660
gtgggagtgc atggtgagtg gggcagaact cttttcccac cgaggcgcgc aggctagtgc        720
tgaatggcac ttctgaagcg ggataaccgc cccaacacac gcacccagcc ctgcctggga        780
cggaccttcc ggaaggagtg atgcttgagc ccaggtctgg acagggacag gtgttgttgc        840
ctcaggtggg gtgggaggtg ggcgtgggga agaggaaggt gctcagtcag gaaactgggg        900
ctgctggggg ccccctтccc ccagtcctat ctcacctctg tgcagggaga gctctgtggg        960
tggcccgagg cctggggcca ctctcctccc tgcctgatgg ctacccaggt tcaccagggg       1020
ccactggggc tcccaccagc ccctgaccct gtgggcctgt ggccttgcag gagaacgtca       1080
gctgcctcaa caccagcctg gtgatcctga tgctggcccg acggaaagag cggctgcccc       1140
tgtacctgcg gctgctgcag cggatggagc acagcaagaa gtaccccggc ttcctgctca       1200
acaacttcca caacctgctg cgcttctggc agcagcacta cctgcacaag gacaaggaca       1260
gcacctgcct agagaacgtg agtgccccac cctcaagggg gtgatgggtg ggccgcggac       1320
ccagggcctc tcagaggggt gtcccggtgc tgggcttgac ctgggtcctc caggcgcccc       1380
ccagcccctc cttctttgcc cagagctcct gcatcagctt ctcatactgg aaggagacag       1440
tgtccatcct gttgaacccg gaccggcagt caccctctgc tctcgttagc tacattgagg       1500
agccctacat ggacatagac agggacttca ctgaggagtg accttgggac aggcctcggg       1560
aggctgctgg gccagtgtgg gtgagcgtgg gtacgatgcc acacgccctg ccctgttccc       1620
gttcctccct gctgctctct gcctgcccca ggtctttggg tacaggcttg gtgggaggga       1680
agtcctagaa gcccttggtc cccctgggtc tgagggccct aggtcatgga gagcctcagt       1740
ccccataatg aggacagggt accatgccca cctttccttc agaaccctgg ggcccagggc       1800
cacccagagg taagaggaca tttagcatta gctctgtgtg agctcctgcc ggtttcttgg       1860
ctgtcagtca gtcccagagt ggggaggaag atatgggtga cccccacccc ccatctgtga       1920
gccaagcctc ccttgtccct ggcctttgga cccaggcaaa ggcttctgag ccctgggcag       1980
gggtggtggg taccagagaa tgctgccttc ccccaagcct gccctctgc ctcattttcc        2040
tgtagctcct ctggttctgt ttgctcattg ccgctgtgt tcatccaagg gggttctccc        2100
agaagtgagg ggcctttccc tccatccctt ggggcacggg gcagctgtgc ctgccctgcc       2160
tctgcctgag gcagccgctc ctgcctgagc ctggacatgg ggcccttcct tgtgttgcca       2220
atttattaac agcaaataaa ccaattaaat ggagactatt aaataacttt attttaaaaa      2280
tgactgctgt ggacctggct tttgtcccta ggactgtgtt tttcctcctg aaccccaaag       2340
aaaagaatga gaaggaaact ggctgtggtg tttattcagg gcccagggaa ggctgaaggc       2400
agcaggggc gatgcagaga tggcaggatc ggggcaggtg gcctcagcca gatgtgcaac        2460
agcagacatt cctctttaga gcccaggggg tcaggccgtc actccttgtg ctgaggagaa       2520
agggatagct gagtgagcag tactacctgt cagccccccac agtcccctg cacagagagc        2580
aatgcccctg ccactcctca ccttggggcc cagggcgtcc cgggtccgtg cccgcagctt       2640
gttggcctgg gtttccgcca tgtctgcccg ctcctccgca tcatccagct cgtgctgggc       2700
cttgcgatac ttggccaggt tggtgttggc ctgctgctcc tgggggcaca cacagggcct       2760
tggttccgct tgggtgactg agatgcttat tctggtccct gccccagtcc aagaagggag       2820
ctagctcctc ctggttctca actttgttcc tattgccact gtccatcctc accaatacca       2880
cagcgggaat aaggaagttg ggacgcacca acttcatgtg cctttttgtg cctgccccac       2940
ccctcagagg cagccccagc cttggccagg ggaaagcaca tggggtctgt tccatgagaa       3000
ggagctaggt ctgatctccc cagagatgtt agaagcttct ctcttccctc tgggtcactg       3060
accttggagg gtggagctgc tgctgatgcc tcacctggcc acagaccctg gggcagagct       3120
ggggtgcccg gtccaggtgt ccaggcccca gcgcactcac cgcctcctca aactggcgct       3180
tgtagctctt gaccttgctc tgcagcttgt ccaccaggtc ctgcatgcga ccaggttct        3240
t                                                                       3241
```

```
<210> 2157
<211> 20295
<212> DNA
<213> Homo sapiens

<400> 2157
agggccattt gcgacttgaa gagcggtccc cataatttgc tgtcatacat ctgcctgggc         60
```

```
acttcctggg ggtctggttg gtggcaggag aagggcataa gcagggaggg atgggtcatg    120
ttactgtatt ggctgtgtcc gaatattttt actttatgtt aaagttgatg aggcacaact    180
attgcagagt ccattttttcc gagtctctgc gctcacctgg ctcctgggat tgtggaggga    240
gttttgcagc tttcagagtc tgtgtttttgg gctcatggcc cagccgaatg gccatgctac    300
aagtctgttc agagcaggtt cgaggggcag aaacgtgttt cctcacaagc tgtgactcaa    360
tcctgtctcc ggtggctgtg tcagcctcca ttgtgttccc tcctccaggg gcttctgagg    420
agaatggcct gcctcacacg tcagccagaa cccagctgcc ccagtcaatg aagattatgc    480
atgagatcat gtacaaactg gaagtgctct atgtcctctg cgtgctgctg atggggcgtc    540
agcgaaacca ggtgggcccc tctccagcgt ctcaggacac ggggagcagg tgctgcccgg    600
gtgctcatgg tatgccaggt gctccactgg gccttctgtt agaatggctc tcgctttagc    660
ctggcaaagc ataggggtat ttctccttct gttctaccta taaggaaacc aggctgattc    720
cagaaccggg agtcttttca ctgtgccttg ctgtatggag cgtttctagg cagtcttggt    780
tggtgctgag ggcagaagca ggcagttgcc tctgtgaggt gaagactaaa gagttgaaag    840
ctggcaagcc tggccctgtg gacatgctag aggagttgcc aacctgatgt gggctcaggg    900
cagtgggaca gagcccagag ctgtgtctgc ttaggaaaac tgggcaagta cagggagctc    960
cagatgtgca aggttccctg agccttgaag tagttccaag acggaggagg aggggcccat   1020
aacctacagt ggaggaaaaa gggcttggaa cagtgcggcc ctcctcaaga ctattgagaa   1080
gtagcctttt cctgcagacc gcgcccttct agggaggaaa ccaagcatgg gggcaggaga   1140
ggctggaggc tcagcagtcc ttccacatct ttctgagtca gacactggac tgtcacaagt   1200
ctgggcaaca gaggtgcagt tacccccatt ttacaagtga ggatgaaaac gtccagaaga   1260
gaatgaaaga gtgtaccagg tgggaggggg cagtgccctg gggaggagtg tgcatagttg   1320
ctggaacagt gaggcagcgc gggacagcct ggagcaaaca gccaggagag gagggctgag   1380
ggctcacagg gaccaggtca tgtcaagctg tcacaggcca ttttaaagac tttggttttt   1440
actctgagtg aagtgagaag tcattcctct gactgctttt ggaaagactg gaaacagcaa   1500
ggaagggaat agggcgacca ttaggggccc tcataatagg gccaagagat gatagcagct   1560
aggaccagca cattgatggt gggactggtg ggaggtggtt gcattctgga tatgttttga   1620
aagataggat ttgctgatgg tttggatgtg aacttaagag tgaggagagg agttaagggt   1680
gactcccaag gttttttcgcc caaggaagta ggagaatgga tttgccaggt attgaggtgg   1740
ttaagactag caggtaaggg gtggaggagc aggcttaggg aggaagatgg ggagttgtgt   1800
tttgtacaag gtagatttga ggtgtgtgtt agaattgaca cttggattga ttacctacac   1860
ctggtgttgg ggagatggca aggctggagg tatcactttg ggagtcctca gcatatggtt   1920
gtatttaaaa ccaggacact ggatgagatc ccacggtgat agccacagca ttggtgtccc   1980
ttccttcaat acggaacatg tttttaataa aaaataatag tttttagggac agctttttatg   2040
cattgagtgc tattactttt ttgaggcact ttcgcagttg cttatatgtg aaataaattgt   2100
agggacagct tctgtgcatt gagtgctatt acttttttcga ggcactttca cagttgtttg   2160
aattttcagg tatttagtaa gttacacaac aggtggtgac tctgtgtccc cacactcgat   2220
tcttgagaaa gccagggcat aaactgggct gtgcgctcag gggacaggcc tggatagagc   2280
caggatttaa actctgctgc cctgtctcct ctttctgccc tctcacagca gttctctgtt   2340
ccctgagcct tcttgttgcc aggttgctat gagttgttgc ggtcttgagt taaactgtat   2400
gattacagtg ctggttcctt gggaagggac cactaatgac cttgaaatct tggcccccca   2460
aaaccactgt ttcactagcg tgttctcatt tgcacagtca gcattcctg ggtttctgct    2520
gtgtgccggg caccgtgagg atctggattc ccagatcctg cctacactgg gtagcaaggg   2580
gaagggtttc cttggccagg cctcacagaa ggcttcctcc ttaaagaggc ctcctcgtta   2640
atgagcagtt gggccaagtt ctcagaccaa tcttggccaa attgaaatct caggactgga   2700
aaggctcccc atgtgctgtc aagtttcatc cctctggtgc taatgaaaac catccatata   2760
gcagtcgttt ctttttagtgc cccctgagta gcttctacag tacctcactg agccttttca   2820
acagctccat cgtcccccat cgccttttct atcaagggac ttgggttcaa agaatgttgc   2880
ccagggtcac agagctatct tgtgaaccca gggctgtctg actgcagaga taaatgcctg   2940
agcctgtacc cgctgcctcc tctggtagag tggcacttca tctcgcccac ctgcctacca   3000
tcctgctata gagcaggcta cggggctgga cctgagagta ggaataatgc attctacaag   3060
taaaatttgt tttacaaatt ttacacatga agaagctgct attttctttc tttctttttt   3120
tttttttttt tttttctttt ttttgagaca gtcttgctct gccaccagg ctggagtggt    3180
gcagtgacat gacctcggct cactgcaacc tctgcctccc cagctcaagc gatcctcttg   3240
cctcagccct ccaagtagct ggggttatag gcacacacca ccacacccag ctaatttttg   3300
tattttttagt agagacaggg tttcatcatg ttggccagga tggtctgaaa ctcctggcct   3360
caagtgatcc gcccgccttg gcctcccaaa gtgctgggat taacaggcgt gagccaccat   3420
gcccggccga gaagctggta ttgttaagag aaaagggaaa tgatgtagta gaaacctcaa   3480
acctaagcac tggcctgaac ttaggagacc cagggtcagg tccaagtctg ccttagaagg   3540
ccccctctctt cccagctgtg tgactcaccc ctaatctctt aagcttgggt ttctagtctg   3600
tgcagtgagg caattgcact ggatgaattt ttttgggcca ttgttggaac atttttatagc   3660
tgtgtgacct gggcctggct tagggccctt tggagtgaga caggaaggca catggcttgg   3720
```

2224

```
tgaacaccat agatgtcagc cgtacctccc cacccccagt taagcagggc aaggtagatc   3780
caggctgggt tttagtaaag gcctgagtgg cagaacaggt gtcattttac atcagcctca   3840
gtctaacaga ttctgggctg cttatgagtc ttaacactgg ccagaggctg tgatttctag   3900
taggaagaga atagtcacct ctattacttt cagtggcaaa aatcgcaatt acttttacac   3960
aacctaatat gttgaaggaa gaggtccatg gaaatggagg ctgccaggga tgtctttgtc   4020
agcttctggt ctcccaagat aaatgcatac ctgtagtggg ctagaaaggg gcagacttaa   4080
gatctgaaca cctgagttag gtgccgttgc aatcactgac cttacccagg ctggtcttgc   4140
tgaacttctc ccccttgtaa aatagcaata agcgagcact ggtgctgtgt gcagagcttt   4200
acatctgctt tctgactcga tccttacaac agccccgaga agggctagta atagccttat   4260
gttatataaa caaattttaa cagggaaatc attcctgcag ttctgtttta aaagatataa   4320
attagtataa gtgaagcctc tctcccctct gatccttgac attctattct aatggttcca   4380
tgaagcagct aattttacca gttattagtg tatccttcta gagacatttt tatgcttaca   4440
aaggcgaatt gtattcctct tttttacac aatcagtaat acagcatgag cacacttgct   4500
ttcccagtat tatctctcgg caattgttca gttcacgaca tataaaatac cttgattctt   4560
ttttactggt gccttgtatc ccattgagtg gcataccata atttattttg gggtattaca   4620
aataatgcta tagtgagtag tgttgtaaat atatatcatt tagtgtttat atggatctgt   4680
ctgagtgtaa attcctaaag tggaattgct ggtttaaagg gattatggat ttgcaatttt   4740
agagctactg ccaaacactc ttccctgtgc aggtcatacc agtgtgccct cccaccaaca   4800
gcgtgtgaat gtacccaatg cccagtcac caacacggtc ttataaagct ttgtcatctt   4860
tcccagtctg aaaaagtgaa aaatcagaga catttgtagg actccttata gaggaatttc   4920
tttgcctgtg gcatgaattg ccaatgtatg ttctctgttt gtcatatttg gcttgtgact   4980
ttgcttgagt tttgccatac agaatttta aaggtttagg tggttgatgt caacaagctt   5040
cttttgagc ttctaggttt attataatcc ttcagaaagg cttttccaac tcttagatca   5100
ttttttttc tttgcagaga tttttctaga tcttagagtt ttttaataat tgtatcttac   5160
tttcagctga aatttatcct agtgcaaagc atgaggaaca ttttgatgtt aatacgagga   5220
gacaaatctt aaggaatttg tttaaggtta caaagtttgc acatggtaaa gctaagagtc   5280
aaacccagga ctcttgcatc ccaaaggact cttgaatcat atgcaggact ctctgaatcc   5340
caaactcatg cttctgtgat aggaactacc ggacattatg ccttgtagga ttattgtgag   5400
cattaatgag caaagttaga aagtgggttt gtgtgtgctg ggcataggggg atacacggat   5460
gttttcttca gaccctggcc ctccttactg acagtactga tacttgtcct gaatatcatt   5520
atcgtgtgta ctgagcacga ggttttgcta gatttttcaa gcacatttgt cttaatactt   5580
tttccttcct atcccattca ggttcacaga atgattgcag agttcaagct gatccctgga   5640
cttaataatt tgtttgacaa actgatttgg aggaagcatt cagcatctgc ccttgtcctc   5700
catggtcaca accagaactg tgactgtagc ccggtaagca ggagaccccc ggggacagat   5760
ggggcctcac tggcttggag tagttgtttc aagacctgct gctgaccctt tgaccttttt   5820
tcctttggga gtagagcaga aactaaaatc atatcttata gtccctaat tggaagctac   5880
cttggagtag gatctgagtg aactccactc cccacccaa cctatgcaga aatccctttt   5940
aagatcttcc taggctgggc acagtgactc aggcctgtaa tcccagcact ttgggaggcc   6000
gagcgggcag atcacttgag gtcaagagtt acagaccagc ctggccaaca tggtgaaacc   6060
ctgtctcact agtgtgagag acacttgcgt ctctcactaa aaatacaaaa attggccagg   6120
tatggtgttg ggtgcctgta atcccaactc ttcgggaggc tgaggcacca gaattgcttg   6180
aacccaggag gcagaggttg cagtgagctg agatcacgcc actggactcc agcctgcgta   6240
acaaagtgag actgtgtctc aaaaaaaaaa aaaaaaaaag ttcctgcctg aggccctcta   6300
gccaacttcc ccttgtaatc tctgtgatag ggatctcatt tcactccagg caggggctgc   6360
ccactgcatg agctagcagc ctgctttcc ttatttgctg ttttatccta ttgtaatttt   6420
catccaccta tagaaccgtg ctcccgggcg tggtggtcac acccgtaatc ccagcagttt   6480
gaaaggccaa ggcgggcaga tcacttgagg tcaggagttc gagaccagcc tggccaacat   6540
ggtgaaaccc cgtctctact aaaaatacaa aaattagcca ggcatgttgg tggggcacct   6600
gtaatccctg ctactcagga ggctgaggtg ggagaatcac ttgaacccgg gaggtagagg   6660
ttgcagtgaa ctaagatcaa gccactgcac atccggcctg ggtgacagag caaagacact   6720
gtctcataca aaaaaggtg gctttggttt tttgagccca agcactctcc tttagcttgt   6780
gtctctcaca gtccccttga gagagctctg aacaggacat tggaaggctt gttggaagag   6840
cttgaatgaa tcactgaatc tctgagcctc tgttttcttg caaaagaagg ataatactct   6900
ttcccctatt ggcccccgg ctagtcggca ccctgcctac cagcatgaga aggaaagtgc   6960
tctgggacct aaaagtgcca cccagccatc ggcctggtgc catgggccc tcttctcttc   7020
actgcactct ggggacttcc ctcagcgacc tgtcttctgc tttatcattt gagttttaa   7080
tttcaagcaa atatattttg catttctaga tgttctgtct ggctcaattc ggaaactgct   7140
tagccatgat gttaatatct tttttctgct gcatattctg tttttaatca tttttaaaat   7200
actttcttaa ggtctctttc gattgctcat ggggcactaa tgcttgtgtt tgggtcttca   7260
gacctcaggg tggagtgttg cctcgtgttt tgtaatgtct gtggagcggc caccagaatt   7320
gcttgaaccc aggaggcaga ggttgcagtg agctgagatc acgccactgc actccagcct   7380
```

2225

```
gggcaacaga gtgagactgt gtctcaaaaa aaaaaaaaaa aaaaaattct gcctgaggcc    7440
ctctagccac ttccccttgt aatctctgtg atggggatct catttcactc caggcaggga    7500
gggggctgcc cactgcatga gctagcagcc tgcttttcct tatttgctgt tttatcctat    7560
tgtaattttc atccacctat agaaacgtgc tcccgggcat ggtggctcac accgtaatc     7620
ccagcacttt gagaggccaa ggcgggcaga tcacttgagg tcagtggggt tagtttcccc    7680
cttggatacc tgtgtagcct cagccctgga ggcatttcta cagggcactt ttgctttgt     7740
ctggcagctg tcccagggcc agttttctta tttaatgtct tggccctact gccccagtcg    7800
tatgagccca gggtttctgc tgctcttggg agggccccct tcacccacca gcagcaccat    7860
ggcagagcca ggctccctgg gctggtgggt caggcctttc taaccccttct ttcaccaagt   7920
gtacatgctc cccaggcttt actgggacct gacaccctgt ctagtccctg cagggcatta    7980
aaacccaagc cttagtgtga ctaggtcttg tctccacctc tccacactgc ccacagctgc    8040
tgagtatcag ttccttggct cactattcca aactcctcgg tcctttcttc atttctaact    8100
cctatggact tcccccgctc ctccccacac gtgttgtttt gtttgttggt tggttggatt    8160
tttgggacag agtctccatc acccaggctg gagtgcagtc agtggtgcga tctcggctca    8220
ctgcaacttc cgcctcccag gttcaagtga ttctcctgcc tcagcctcct gagtagccag    8280
aattacaggc gcagcaacta tgcctggcta attttttgtat ttttagtaga gacagggttt    8340
gccatgttgc ccaggctggt ctcaagctcc tgacctcaag cgatctgccc gcctcggcct    8400
cccaaagtgc tgtgattaca ggtgtaacca ccacgcccccg ccttatttt tattgagtgt     8460
gatggcatgt ttttagcagg aaggggggcca cattagctta atctgctgtt gatcagatgt    8520
ggaagtgaac agatggtttt ctaactaaag aaaagtcctc atggtacatg aggacagagg    8580
cttagagaag caggctccca ccagagtgtc tgcttgtgtt attttggaac cttgtggctg     8640
tggtcctaac attgaggctg tgcatgtgtt tcaggacatc accttgaaga tacagttttt     8700
gaggcttctt cagagcttca gtgaccacca cgagtaagta caagagtgtc cctgcaagga    8760
gagttgttgg gctgtcttcg gaaggcctcg atctccttgt ctggtccctg acctcagctc    8820
gagaggaggc cctggagctg gtggaagccc actgtccccet cagtgttagc aggtgtgaca    8880
ctgcagtcgg acctcccgtc tttccagact tccttatggc aggcactgcc ccaagctttc    8940
ttctaaccct catagccacc ccaggaactg agtatggaag tcgttggccc cttactacct    9000
ttggaatcaa tggatttctc aacctactgc ccctctaaag caagagtgga cagcgtggct    9060
attcccaggg gccggcagga acttcagaca ggcaaagccg actgcttact gagcagctgg    9120
aggattcttc cctccacaag gaggtgtgct cccatttttc ttgaaagaca ttctgcgctc    9180
atttattttt taaccttcga tggagaatgt acaaggaaaa ttactctctg ctgtaaggaa    9240
aacagtgcag gaagggggtg actagcagct gacccttgac cttggcattg gggaggtgat    9300
gtggggacct tagtgaacaa gaatttcagt gagctcagct ccagccagtc gcgtgtgcac    9360
aggaaactgg gcccactgtt gcataacttc tgattttttc tgccaagcaa aggcagaaat    9420
taagatttat gtgaaaggtc ctgattttaa atgttggttt aaatattta aaaaccttgc     9480
atttgagcta acagaacatg cctggagaca gctgtggccc cagggcacct ccatcatatg    9540
cacccatcct ctgtgagagg ttttccggct gaaagccata gaagggctcc aggaagcatg    9600
ttaaccttct gaaaaatggc accacatatg ttatggaact gtgctgtttt ccctgaggaa    9660
gtgagtctct ggctttcatc agactcttca gtctgagtac tctgtgggat atcaggatga    9720
atgcaaacag ccatggcccc tgctctcatg aagggcagag tctgaaaaca gagacagttg    9780
ttcatccaag gattccaccg ttgagcatta gtgataagtg gagatggtat tcaggaggag    9840
aggaacgggg tctgtgagag acatttgaca gggtccagga ctggccagag gacactcagg    9900
aactctcccc tgcagaagtg gcttgccagc caagacctga agtgtcagct tgtagtgaat    9960
tgagtgaaca ggcatgtgag agggtgtgtg ttctagccag aagcccctga acgagggaag   10020
accattgtgg ccagctgatg ggagtgatgt gggcttggct ctgggctggg ctgcacagga   10080
cgttgtgggt cacagtcaca gggtgttgtg ggtcacagtc acaggcctgg attttatata   10140
cagatggtcc acttagaatt tttcaacttc acaatggtac agaagtagaa ttttgaattt   10200
tgatcttttc ctgggctcat gataaacagt tcaatactct tgcaatgctg ggcactgagc   10260
tgcagctgca gctcagaatg tatttcaaga aaaatggtga ccagctacac gatcaccaag   10320
gtagacaacc agtactctgt gctgtgcctg ccgtgttgcc agtgattatg gccaactgta   10380
ggctgaagtc agtgttctga gcacattcca ggtaggctag gctaagctag gaggttcagt   10440
gggttagata tattaaatgt gtttttctttc ttttttcttttt ttcaagacg gaatcttgct   10500
ctattggccca ggctggagtg cagtggcatg atcttggctc actgcaacct ccaccttctg   10560
ggttcaagca attctacctc agcctcctga gtagctagga ttataggcgt gtgccaccac   10620
gcccagctaa ttttttatat ttttagtaga gatggggttt cgccacgttg gccaggctgg   10680
tctcgaactc ctgacctcgt gatccacccg cctggacctt ccaaagtgct gggattacag   10740
acgtgaacca ccgcgccgg cctcaatatg ttttcaactt aacggcattt tcaaatacga    10800
tgggtttatc aggacataac ctcctcctaa gtcaggaaat gtctgttcta aatgcagtgg   10860
gaagctgtgg aagtgttttc accgggagtg acaggatcag agtcctgatt ctgaagatca   10920
cttttggcac cgtgtgatga ctcagttcct gtgggatacc ttttagtaaa gggagctggt   10980
gtcctgggaa cacaggaccc agcagtgaca ggcctggatg gcaagtcggg ggaagtgtca   11040
```

2226

```
cagttaacca ggcctctgtg tgatgtgtga.ccgtggtgct tggtgggact gctgcagcag  11100
ggccaggctt gagtgtgatt ggacctgttg aggtgttggt gcctttgaga aaacaagtgg  11160
aaatgtaggc aaagagaaag gcccagagct gctgagggaa ggggccttgt cgatgaatgt  11220
ggcaggcagg ggtcggggat ggggggtgggg ccagggagag attccactgc ctgagagccc  11280
agagttccct cctgcaggtg ctggctggag tgagaggtgc tagaggaaag tgcctggtgg  11340
cttctcagat tctgtccaca ggaagtgggc aggagactcc ctacactagc ctggtgctga  11400
cccagcagcc ccagttcctg tcctttacct cctccaaccc attttgtttc aggaacaagt  11460
acttgttact caacaaccag gagctgaatg aactcagtgc catctctctc aaggccaaca  11520
tccctgaggt ggaagctgtc ctcaacaccg acaggtgagt gcaggggtgc agcttttccc  11580
tcagcccatc ccggctgccc acgttccccg ggggctcacc ggtgagcaca tccaggtatg  11640
cacgcgtgtc ctctctcaca tgcagctaca gtgtcctgag ggctcctgtg tgccaggcat  11700
tgtattcatg tcacctgcat tttctcattg gagcctcaca gcagccctag gaggggagcc  11760
ccatcagtac ctgcacttga cagatgaggt gagcctcaga gaggtcacct gccagaagtc  11820
atgtgtgctc cgcactgccc caccgccttg tctcgtgcat tcagcccctt tgcttatgtg  11880
ctcctttctt gcctggtggc atctgcagcc aagcaggaca gacagaagcc tcttacctgc  11940
tgccaagtgt taggttgcat tacctgggtt aggtttgcct cacctggagc caggcagtgg  12000
ggggctagtc tcacaggcgt cagaatacag tggactttat ccaacaagag ccatgatttc  12060
ccaacctttt ttgtttgttt gttttgtttt gtttttagga cacaaggtct tgctctttct  12120
ctcaggctgc agagcagtgg tgttatagct cactgcagcc acaaacttct gagctcaagt  12180
gattctcctg cctcagccgc ccgagtagct gggactacag gtgtgcgcca ccattcccag  12240
ctagtgtttt tacttttttt ttgtagagat ggggtctcac tatgttgccc aggctggtct  12300
cgaactcctg gcctcaagtg agcctcccaa agtccaggga ttacaggtgt gaaccacctc  12360
tcctggcctc ccaatctttt ttttctaagg tagcagaact cttcattcaa ataaaattgt  12420
acccagtcct gccctgatgt ctgcagtgga tcacagcaga gctgctctgt ttgaagggcc  12480
cagaccctg cgtgcctggc cgtcttcctt cccccatgac ggggccagag tcatttcctc  12540
atctcctgcc tttgcttcat agactgggaa gctgaggctt ggagttgtgg acacttgccc  12600
aaggccagct ggaagtgaac ctcaggcacg gagtacgctg ggcctcaccc tattggcaga  12660
gtctttcccc atctggcaga ctggcatgac ctgtttcaac acacttttgg tataaacagc  12720
tctcctctgg cagttctaag ccatgtctga ttctggatat gtttctggcc tgggaaggaa  12780
agctggcctg agatgtggtg ggaatgcact tggcagttta attctgtggc tgcaggggtc  12840
tccggggctc tggacccagt tggagcagga aggcatcctg cagacttgga aatgtcccca  12900
tggttttttca ccgcctaagc cagcagaatg acccatcccc agggcccctg tcagcctctc  12960
agatctgtca ccaatatctc tcttctattt caggagtttg gtgtgtgatg ggaagagggg  13020
cttattaact cgtctgctgc aggtcatgaa gaaggagcca gcagagtcgt ctttcaggtg  13080
agtctgggga aaagtacctg ccgattctgc ggggctgcag agccaggtgt ttctcaggag  13140
gttaggaata cctcctttag tcaccagcgt ccatgcctcc tgaagcacaa ttactgttgg  13200
ggagaggtgg tttgactgcc atcttgtgta gttttgactc gacaggtatg tgagagcttc  13260
ttctgcagcc cacagtgacc gagcattcac caagcacctg ttctgtgctg gtgccttatg  13320
ggtgggagag aactaggata cgggccctgc catgaattcc ctagagctgt gctgtttcaa  13380
tgcagtgtgg gaaggaatgg agccagggtt ggcccaggag ctatagcagc aaaggaaagc  13440
ctcttccgct gctagggctg ggggctgggt gaatacaggg agaccttctc tgaggtcctt  13500
agatacatct aagatgagtc ttgaagtcag tggacaggta gagttccatc agggccgggc  13560
gtgagctgtc aggaggcttc atgcccacat gggcctttgt cacttcagtg ccttgtccaa  13620
actccctgtc gtggataccc gctgtgccct ctgggtccct cggtcagcat caaccactac  13680
ttccctaggc cagcccatcg tctgtgagcc cagtggcctg tctgcatgtg ttcgtccgct  13740
tcccacacac attcctggcc cctcaattgc acgtcctccc attcttgtga aagggcaagg  13800
cctagagtat gtttcacggg ggctcgcagg agccagccct tcgatcccag atgttaccct  13860
ttctgtgaca cagcccctтc cagacagacc cagatagaag acttctccac tgagctggct  13920
ctctgtgagg atgggggcac tgctgtgtcc ccaggcccag gatgaagcct gatgcttggt  13980
agatgttcag taaatgttga gtacatgaaa aggcaacaaa catctcccaa ccccttggag  14040
aactgaacat gggccggaag agggcagcct tagccacctg agccagtatt tgggtcgcag  14100
gttttggcaa gctcgggctg tggagagttt cctccgaggg accacctcct atgcagacca  14160
gatgttcctg ctgaagcgag gcctcttgga ggtatgatct ggagcagcca gtgtcttggg  14220
ttccgtctcc ccccagccca cgcgttgctg tgtcctgtcc tgagccccaa acagttcatc  14280
aggagcagag cagatctcgt gacttccaaa tgcctgtgca ggctgcctta gattttgccc  14340
tgggtttcca actgtgggtt ccccatgggt gcttacgggg tgacaggttt agagggtggc  14400
caggccatgc aggagggtga cagtttggtt acccagcaag gcattttgac cctgaagata  14460
ttttgtacta aaagttaatt ttcctttatt gaataatggt cttcagaaaa agtaaaactt  14520
agagcagaat ggccaaagtt ataattggtc tttcagattt tttcatatgg acaagaaact  14580
gacccacgaa ttataaaatc catgtggaaa agaattgatc caaatcaatg taacttcaag  14640
aaaatgtaga aaactttata aaggagtaaa ttggctttat tctcttgatg aaaactcagt  14700
```

```
attttggtgt aaactctatt taaacaattt cgttcataaa cacaaagaca aaccatgggg   14760
tcaaaatgtg tcctttgctt ttaaattctg tccttcattt acttgaatga cctcagtgct   14820
taggcagtgg cctgtgtttt agacctggtg atgacagctc ccctcaccta ggagctgagc   14880
accccggcca tcttggtgac cacagagcag gtcacaggct tcagctgtac gccctgggca   14940
ggggagagat tgtgctgcat tcccagtctg ctccacctcc tggtgaggtc tgtcaggcct   15000
ggtcctgtcc ttggagccac cagcatcctc agacaagaat ctagacagtg ttgccagttc   15060
catccccagg atgcttgctc aaagccaatg catggtctga gctccatgcc aggccctggt   15120
gggggcagcc acgttgacac cttcaccctg tccctcctca cccagcacat cctttactgc   15180
attgtggaca gcgagtgtaa gtcaagggat gtgctccaga gttactttga cctcctgggg   15240
gagctgatga agttcaacgt tgatgcattc aagagattca ataaatatat caacaccgat   15300
gcaaaggtaa agttaaccca gggctctgtg gagtgtgctg ggttgtccag aagttcacct   15360
ggagtcctgg tctgccaggc tttaggcaca ggttttacgt tagagacgac gggggagtct   15420
gggcagtctt tggcaaacat tcattggaac ctgctctgtc tggctttgtg ctagaccctg   15480
ggaatgcagg gatgaaaacc ggggctgctt gtgggtaggg agtgagggtg ggaatgggtg   15540
gcttgtgcgc ctgccgtgac gcagcatggt gggtgccacg gtgggagccg ctgtagggag   15600
ggactgggcc tggtgtgtta ggctcaccga gtgtgtgtga cagaaaccca gctcaggcta   15660
gctgaagtaa aattaaaagt aaaaattaaa ggaatccagc acccttgagc gtaaaaccac   15720
tggagagagt gtcggatctg tgctgaattc cggggagtgc ctcttagtac ctgggtggtg   15780
aggggaggtc cctcagctta tctgagcctc tgtcttccta tctgaagcag tggggctggt   15840
agaggtcgct gatgcccctt gtagtgacta tcccccgggg ccatggccat acctggccag   15900
cagcccactg cctgctgtga gcttggtttc tgtatagttc caggtattcc tgaagcagat   15960
caacagctcc ctggtggact ccaacatgct ggtgcgctgt gtcactctgt ccctggaccg   16020
atttgaaaac caggtggata tgaaaggtac atgaaaggca ggctgtcaag gcaagtcatg   16080
cagggtaaga atgctggcat cagacaccct gtctccagca gggagacaag aatgactgag   16140
ggagctgcac cagatgccca cgtggccggc ctcaaggtgg cggcttccag ggcaattggc   16200
tttgctgcct tgttcaacac tttaataagg tgaaaatcca ttgttgctag caagatgcaa   16260
agaaaaccag aaaaagacct tcctcttctg ggctggtatt gcctggcacg atgagttggc   16320
cccctcgtcc tcagtgtgct gtgcgtggca tcgcaggtgc cctgtggtgc agcaggcatc   16380
tgaaccctcc tggacttgct aacgcacttc catgtgtatg cgcacgcgtt tccttttttt   16440
cctaggagag ggcttgtggc atccagcaga ttctcctgag ggtttgtgac cccccacac   16500
ccccaaaaag tcaggcactt gttccttgtc acggtcactg tcattgatag caagaagtat   16560
cccggttgtt ggtaatttag ccgtttgctt cctttttctg ccccagaggg tctgtttcag   16620
gggaacagcc acacagattt tggtaccttc ggttattgcc ctgcctccca gttgtgcggg   16680
aagcagttgc tccgacacta gtggacggag cagaacctgt gccttgtggt ctcagcactg   16740
ggccggactc acctgagagc tggtgtggaa aaccagttgc gctaggacct ctgtggagg    16800
agtggaactt ttgcgttgtt tttcttaatg cagcgtcatg gatccatctt cctgtggagg   16860
gaactcttct gtgtgtgata tggagggcac gggtctggag ccagtctggg gagggctgag   16920
ggagagctgc cctgagcttg gttctggagg atgaggtggg gtgctcctgg gcactctgag   16980
aacatggctt tgcctggtag caggacagct ggaggtcctt ctttctgcca cagtcagctt   17040
tcgttgaagc tgttttgatg atgagctcct agcttcagag tcaggaccca agcggggctc   17100
cacgaaaggc ctgggcgacc cagccactgg gcctaagcct gacctgctgc acccctgcct   17160
ccctccacag ttgccgaggt actgtctgaa tgccgcctgc tcgcctacat atcccaggtg   17220
cccacgcaga tgtccttcct cttccgcctc atcaacatca tccacgtgca gacgctgacc   17280
caggtgagag gccccggcag acacacagca gggaaggtcg attggaaacc acttcctttg   17340
tcctggtgcc cagcaggttt ctgtccccca ctccagaagt gcgtctctgg agacccagct   17400
cttctgagga ctgtgctcag gaggaatcag tgtcccattg tacagacagg gcctaaggaa   17460
ggagggctcg caagtgccct caggtcacag gctgacttgc aggccagtgc tctccccgcc   17520
tcccccatgt ccacgtccct cacaccttct gccctgctgg gctttggaat cggacctgag   17580
gctgcccaac tccctcactg aatagtcatg cagccttccc ttctctgagc ctcctgcccc   17640
tcttttctag agtgagggtg atcttagcac ctctcagagg tggtctttgg ttccgttctg   17700
aggtgaagca ccaggtggga gtgcatggtg agtggggcag aactctttcc ccaccgaggc   17760
gcgcaggcta gtgctgaatg gcacttctga agcgggataa ccgccccaac acacgcaccc   17820
agccctgcct gggacggacc ttccggaagg agtgatgctt gagcccaggt ctggacaggg   17880
acaggtgttg ttgcctcagg tggggtggga ggtgggcgtg gggaagagga aggtgctcag   17940
tcaggaaact ggggctgctg ggggcccct tccccagtc ctatctcacc tctgtgcagg    18000
gagagctctg tgggtggccc gaggcctggg gccactctcc tccctgcctg atggctaccc   18060
aggttcacca ggggccactg gggctcccac cagcccctga ccctgtgggc ctgtggcctt   18120
gcaggagaac gtcagctgcc tcaacaccag cctggtgatc ctgatgctgg cccgacggaa   18180
agagcggctg cccctgtacc tgcggctgct gcagcggatg gagcacagca agaagtaccc   18240
cggcttcctg ctcaacaact tccacaacct gctgcgcttc tggcagcagc actacctgca   18300
caaggacaag gacagcacct gcctagagaa cgtgagtgcc ccaccctcaa gggggtgatg   18360
```

2228

```
ggtgggccgc ggacccaggg cctctcagag gggtgtcccg gtgctgggct tgacctgggt    18420
cctccaggcg cccccccagcc cctccctctt tgcccagagc tcctgcatca gcttctcata    18480
ctggaaggag acagtgtcca tcctgttgaa cccggaccgg cagtcaccct ctgctctcgt    18540
tagctacatt gaggagccct acatggacat agacagggac ttcactgagg agtgaccttg    18600
ggccaggcct cgggaggctg ctgggccagt gtgggtgagc gtgggtacga tgccacacgc    18660
cctgccctgt tcccgttcct ccctgctgct ctctgcctgc cccaggtctt tgggtacagg    18720
cttggtggga gggaagtcct agaagccctt ggtcccctg ggtctgaggg ccctaggtca     18780
tggagagcct cagtccccat aatgaggaca gggtaccatg cccacctttc cttcagaacc    18840
ctggggccca gggccaccca gaggtaagag gacatttagc attagctctg tgtgagctcc    18900
tgccggtttc ttggctgtca gtcagtccca gagtggggag gaagatatgg gtgaccccca    18960
cccccatct gtgagccaag cctcccttgt ccctggcctt tggacccagg caaaggcttc     19020
tgagccctgg gcaggggtgg tgggtaccag agaatgctgc cttccccaa gcctgcccct     19080
ctgcctcatt ttcctgtagc tcctctggtt ctgtttgctc attggccgct gtgttcatcc    19140
aaggggttc tcccagaagt gaggggcctt tccctccatc ccttggggca cggggcagct     19200
gtgcctgccc tgcctctgcc tgaggcagcc gctcctgcct gagcctggac atgggggccct   19260
tccttgtgtt gccaatttat taacagcaaa taaaccaatt aaatggagac tattaaataa    19320
ctttatttta aaaatgactg ctgtggacct ggcttttgtc cctaggactg tgttttttcct    19380
cctgaaccccc aaagaaaaga atgagaagga aactggctgt ggtgtttatt cagggcccag    19440
ggaaggctga aggcagcagg gggcgatgca gagatggcag gatcgggggca ggtggcctca    19500
gccagatgtg caacagcaga cattcctctt tagagcccag ggggtcaggc cgtcactcct    19560
tgtgctgagg agaaagggat agctgagtga gcagtactac ctgtcagccc ccacagtccc    19620
cctgcacaga gagcaatgcc cctgccactc ctcaccttgg ggcccagggc gtcccgggtc    19680
cgtgcccgca gcttgttggc ctgggtttcc gccatgtctg cccgctcctc cgcatcatcc    19740
agctcgtgct gggccttgcg atacttggcc aggttggtgt tggcctgctg ctcctggggg    19800
cacacacagg gccttggttc cgcttgggtg actgagatgc ttattctggt ccctgcccca    19860
gtccaagaag ggagctagct cctcctggtt ctcaactttg ttcctattgc cactgtccat    19920
cctcaccaat accacagcgg gaataaggaa gttgggacgc accaacttca tgtgcctttt    19980
tgtgcctgcc ccacccctca gaggcagccc cagccttggc caggggaaag cacatggggt    20040
ctgttccatg agaaggagct aggtctgatc tccccagaga tgttagaagc ttctctcttc    20100
cctctgggtc actgaccttg gagggtggag ctgctgctga tgcctcacct ggccacagac    20160
cctggggcag agctggggtg cccggtccag gtgtccaggc cccagcgcac tcaccgcctc    20220
ctcaaactgg cgcttgtagc tcttgacctt gctctgcagc ttgtccacca ggtcctgcat    20280
gcgagccagg ttctt                                                    20295
```

```
<210> 2158
<211> 188
<212> DNA
<213> Homo sapiens

<400> 2158
tctgcgtgat agttcttcag gttcacttca cagattagct gacacttaac tgttctggaa     60
gctgggccaa ggagtgctaa catggaaatt gagtaactat agttttttgc ccaaggtaca     120
ggagaataaa tatgagtaga tagaatctct taaattaaaa atttctccag taaatttttc     180
ctaagtct                                                              188
```

```
<210> 2159
<211> 3241
<212> DNA
<213> Homo sapiens

<400> 2159
ttttgatgat gagctcctag cttcaaagtc aggacccagc ggggctccac gaaagcctgg     60
gcgacccagc cactgggcct aagcctgacc tgctgcaccc ctgcctccct ccacagttgc     120
cgaggtactg tctgaatgcc gcctgctcgc ctacatatcc caggtgccca cgcagatgtc     180
cttcctcttc cgcctcatca acatcatcca cgtgcagacg ctgacccagg tgagaggccc     240
cggcagacac acagcaggga aggtcgattg gaaaccactt cctttgtcct ggtgcccagc     300
aggtttctgt cccccactcc agaagtgcgt ctctggagac ccagctcttc tgaggactgt     360
gctcaggagg aatcagtgtc ccattgtaca gacagggcct aaggaaggag ggctcgcaag    420
tgccctcagg tcacaggctg acttgcaggc cagtgctctc cccgcctccc ccatgtccac    480
```

```
gtccctcaca ccttctgccc tgctgggctt tggaatcgga cctgaggctg cccaactccc    540
tcactgaata gtcatgcagc cttcccttct ctgagcctcc tgccctctt ttctagagtg     600
agggtgatct tagcacctct cagaggtggt ctttggttcc gttctgaggt gaagcaccag    660
gtgggagtgc atggtgagtg gggcagaact ctttccccac cgaggcgcgc aggctagtgc    720
tgaatggcac ttctgaagcg ggataaccgc cccaacacac gcacccagcc ctgcctggga    780
cggaccttcc ggaaggagtg atgcttgagc ccaggtctgg acagggacag gtgttgttgc    840
ctcaggtggg gtgggaggtg ggcgtgggga agaggaaggt gctcagtcag gaaactgggg    900
ctgctggggg cccccttccc ccagtcctat ctcacctctg tgcagggaga gctctgtggg    960
tggcccgagg cctggggcca ctctcctccc tgcctgatgg ctacccaggt tcaccagggg   1020
ccactggggc tcccaccagc ccctgaccct gtgggcctgt ggccttgcag gagaacgtca   1080
gctgcctcaa caccagcctg gtgatcctga tgctggcccg acggaaagag cggctgcccc   1140
tgtacctgcg gctgctgcag cggatggagc acagcaagaa gtaccccggc ttcctgctca   1200
acaacttcca caacctgctg cgcttctggc agcagcacta cctgcacaag gacaaggaca   1260
gcacctgcct agagaacgtg agtgccccac cctcaagggg gtgatgggtg ggccgcggac   1320
ccagggcctc tcagaggggt gtcccggtgc tgggcttgac ctgggtcctc caggcgcccc   1380
ccagcccctc cttctttgcc cagagctcct gcatcagctt ctcatactgg aaggagacag   1440
tgtccatcct gttgaacccg accggcagt caccctctgc tctcgttagc tacattgagg    1500
agccctacat ggacatagac agggacttca ctgaggagtg accttgggac aggcctcggg   1560
aggctgctgg gccagtgtgg gtgagcgtgg gtacgatgcc acgccctg ccctgttccc     1620
gttcctccct gctgctctct gcctgcccca ggtctttggg tacaggcttg gtgggaggga   1680
agtcctagaa gcccttggtc cccctgggtc tgagggccct aggtcatgga gagcctcagt   1740
ccccataatg aggacagggt accatgccca cctttccttc agaaccctgg ggcccagggc   1800
cacccagagg taagaggaca tttagcatta gctctgtgtg agctcctgcc ggtttcttgg   1860
ctgtcagtca gtcccagagt ggggaggaag atatgggtga cccccacccc ccatctgtga   1920
gccaagcctc ccttgtccct ggcctttgga cccaggcaaa ggcttctgag ccctgggcag   1980
gggtggtggg taccagagaa tgctgccttc ccccaagcct gcccctctgc ctcattttcc   2040
tgtagctcct ctggttctgt ttgctcattg gccgctgtgt tcatccaagg gggttctccc   2100
agaagtgagg ggcctttccc tccatccctt ggggcacggg gcagctgtgc ctgccctgcc   2160
tctgcctgag gcagccgctc ctgcctgagc ctggacatgg ggcccttcct tgtgttgcca   2220
atttattaac agcaaataaa ccaattaaat ggagactatt aaataacttt attttaaaaa   2280
tgactgctgt ggacctggct tttgtcccta ggactgtgtt tttcctcctg aaccccaaag   2340
aaaagaatga gaaggaaact ggctgtggtg tttattcagg gcccagggaa ggctgaaggc   2400
agcagggggc gatgcagaga tggcaggatc ggggcaggtg gcctcagcca gatgtgcaac   2460
agcagacatt cctcttaga gcccaggggg tcaggccgtc actccttgtg ctgaggagaa     2520
agggatagct gagtgagcag tactacctgt cagcccccac agtcccctg cacagagagc     2580
aatgcccctg ccactcctca ccttggggcc cagggcgtcc cgggtccgtg ccgtgctgggc   2640
gttggcctgg gtttccgcca tgtctgcccg ctcctccgca tcatccagct cgtgctgggc   2700
cttgcgatac ttggccaggt tggtgttggc ctgctgctcc tggggggcaca cacagggcct   2760
tggttccgct tgggtgactg agatgcttat tctggtccct gccccagtcc aagaagggag   2820
ctagctcctc ctggttctca actttgttcc tattgccact gtccatcctc accaatacca   2880
cagcgggaat aaggaagttg ggacgcacca acttcatgtg ccttttgtg cctgccccac     2940
ccctcagagg cagccccagc cttggccagg ggaaagcaca tggggtctgt tccatgagaa   3000
ggagctaggt ctgatctccc cagagatgtt agaagcttct ctcttccctc tgggtcactg   3060
accttggagg gtggagctgc tgctgatgcc tcacctggcc acagaccctg gggcagagct   3120
gggggtgcccg gtccaggtgt ccaggcccca gcgcactcac cgcctcctca aactggcgct   3180
tgtagctctt gaccttgctc tgcagcttgt ccaccaggtc ctgcatgcga ccaggttct    3240
t                                                                    3241
```

```
<210> 2160
<211> 20295
<212> DNA
<213> Homo sapiens

<400> 2160
agggccattt gcgacttgaa gagcggtccc cataatttgc tgtcatacat ctgcctgggc    60
acttcctggg ggtctggttg gtggcaggag aagggcataa gcagggaggg atgggtcatg   120
ttactgtatt ggctgtgtcc gaatattttt actttatgtt aaagttgatg aggcacaact   180
attgcagagt ccattttcc gagtctctgc gctcacctgg ctcctgggat tgtggaggga    240
gttttgcagc tttcagagtc tgtgttttgg gctcatggcc cagccgaatg gccatgctac   300
aagtctgttc agagcaggtt cgaggggcag aaacgtgttt cctcacaagc tgtgactcaa   360
```

```
tcctgtctcc ggtggctgtg tcagcctcca ttgtgttccc tcctccaggg gcttctgagg      420
agaatggcct gcctcacacg tcagccagaa cccagctgcc ccagtcaatg aagattatgc      480
atgagatcat gtacaaactg gaagtgctct atgtcctctg cgtgctgctg atggggcgtc      540
agcgaaacca ggtgggcccc tctccagcgt ctcaggacac ggggagcagg tgctgcccgg      600
gtgctcatgg tatgccaggt gctccactgg gccttctgtt agaatggctc tcgctttagc      660
ctggcaaagc ataggggtat ttctccttct gttctaccta taaggaaacc aggctgattc      720
cagaaccggg agtcttttca ctgtgccttg ctgtatggag cgtttctagg cagtcttggt      780
tggtgctgag ggcagaagca ggcagttgcc tctgtgaggt gaagactaaa gagttgaaag      840
ctggcaagcc tggccctgtg gacatgctag aggagttgcc aacctgatgt gggctcaggg      900
cagtgggaca gagcccagag ctgtgtctgc ttaggaaaac tgggcaagta cagggagctc      960
cagatgtgca aggttccctg agccttgaag tagttccaag acggaggagg aggggcccat     1020
aacctacagt ggaggaaaaa gggcttggaa cagtgcggcc ctcctcaaga ctattgagaa     1080
gtagcctttt cctgcagacc gcgcccttct agggaggaaa ccaagcatgg gggcaggaga     1140
ggctggaggc tcagcagtcc ttccacatct ttctgagtca gacactggac tgtcacaagt     1200
ctggcaaca gaggtgcagt tacccccatt ttacaagtga ggatgaaaac gtccagaaga     1260
gaatgaaaga gtgtaccagg tgggaggggg cagtgccctg ggaggagtg tgcatagttg     1320
ctggaacagt gaggcagcgc gggacagcct ggagcaaaca gccaggagag gagggctgag     1380
ggctcacagg gaccaggtca tgtcaagctg tcacaggcca tttttaaagac tttggttttt     1440
actctgagtg aagtgagaag tcattcctct gactgctttt ggaaagactg gaaacagcaa     1500
ggaagggaat agggcgacca ttaggggccc tcataatagg gccaagagat gatagcagct     1560
aggaccagca cattgatggt gggactggtg ggaggtggtt gcattctgga tatgtttttga     1620
aagataggat ttgctgatgg tttggatgtg aacttaagag tgaggagagg agttaagggt     1680
gactcccaag gttttttcgcc caaggaagta ggagaatgga tttgccaggt attgaggtgg     1740
ttaagactag caggtaaggg gtggaggagc aggcttaggg aggaagatgg ggagttgtgt     1800
tttgtacaag gtagatttga ggtgtgtgtt agaattgaca cttggattga ttacctacac     1860
ctggtgttgg ggagatggca aggctggagg tatcactttg ggagtcctca gcatatggtt     1920
gtatttaaaa ccaggacact ggatgagatc ccacggtgat agccacagca ttggtgtccc     1980
ttccttcaat acggaacatg tttttaataa aaaataatag ttttagggac agctttttatg     2040
cattgagtgc tattactttt ttgaggcact ttcgcagttg cttatatgtg aaataattgt     2100
agggacagct tctgtgcatt gagtgctatt actttttcga ggcactttca cagttgtttg     2160
aattttcagg tatttagtaa gttacacaac aggtggtgac tctgtgtccc cacactcgat     2220
tcttgagaaa gccagggcat aaactgggct gtgcgctcag gggacaggcc tggatagagc     2280
caggatttaa actctgctgc cctgtctcct ctttctgccc tctcacagca gttctctgtt     2340
ccctgagcct tcttgttgcc aggttgctat gagttgttgc ggtcttgagt taaactgtat     2400
gattacagtg ctggttcctt gggaagggac cactaatgac cttgaaatcc tggccccca     2460
aaaccactgt ttcactagcg tgttctcatt tgcacagtca gcatttcctg ggtttctgct     2520
gtgtgccggg caccgtgagg atctggattc ccagatcctg cctacactgg gtagcaaggg     2580
gaagggtttc cttggccagg cctcacagaa ggcttcctcc ttaaagaggc ctcctcgtta     2640
atgagcagtt gggccaagtt ctcagaccaa tcttggccaa attgaaatct caggactgga     2700
aaggctcccc atgtgctgtc aagtttcatc cctctggtgc taatgaaaac catccatata     2760
gcagtcgttt cttttagtgc cccctgagta gcttctacag tacctcactg agcctttttca     2820
acagctccat cgtcccccat cgccttttct atcaagggac ttgggttcaa agaatgttgc     2880
ccagggtcac agagctatct tgtgaaccca gggctgtctg actgcagaga taaatgcctg     2940
agcctgtacc cgctgcctcc tctggtagag tggcacttca tctcgcccac ctgcctacca     3000
tcctgctata gagcaggcta cggggctgga cctgagagta ggaataatgc attctacaag     3060
taaaatttgt tttacaaatt ttacacatga agaagctgct attttctttc tttctttttt     3120
tttttttttt tttttctttt ttttgagaca gtcttgctct gccacccagg ctggagtggt     3180
gcagtgacat gacctcggct cactgcaacc tctgcctccc cagctcaagc gatcctcttg     3240
cctcagccct ccaagtagct ggggttatag gcacacacca ccacacccag ctaattttg     3300
tattttagt agagacaggg tttcatcatg ttggccagga tggtctgaaa ctcctggcct     3360
caagtgatcc gcccgccttg gcctcccaaa gtgctgggat taacaggcgt gagccaccat     3420
gcccggccga gaagctggta ttgttaagag aaaaggggaaa tgatgtagta gaaacctcaa     3480
acctaagcac tggcctgaac ttaggagacc cagggtcagg tccaagtctg ccttagaagg     3540
cccctctctt cccagctgtg tgactcaccc ctaatctctt aagcttgggt ttctagtctg     3600
tgcagtgagg caattgcact ggatgaattt ttttgggcca ttgttggaac attttatagc     3660
tgtgtgacct gggcctggct tagggccctt ggagtgagga caggaaggca catggcttgg     3720
tgaacaccat agatgtcagc cgtacctccc cacccccagt taagcagggc aaggtagatc     3780
caggctgggt tttagtaaag gcctgagtgg cagaacaggt gtcattttac atcagcctca     3840
gtctaacaga ttctgggctg cttatgagtc ttaacactgg ccagaggctg tgatttctag     3900
taggaagaga atagtcacct ctattacttt cagtggcaaa aatcgcaatt acttttacac     3960
aacctaatat gttgaaggaa gaggtccatg gaaatggagg ctgccaggga tgtctttgtc     4020
```

2231

```
agcttctggt ctcccaagat aaatgcatac ctgtagtggg ctagaaaggg gcagacttaa   4080
gatctgaaca cctgagttag gtgccgttgc aatcactgac cttacccagg ctggtcttgc   4140
tgaacttctc ccccttgtaa aatagcaata agcgagcact ggtgctgtgt gcagagcttt   4200
acatctgctt tctgactcga tccttacaac agccccgaga agggctagta atagccttat   4260
gttatataaa caaattttaa cagggaaatc attcctgcag ttctgtttta aaagatataa   4320
attagtataa gtgaagcctc tctcccctct gatccttgac attctattct aatggttcca   4380
tgaagcagct aattttacca gttattagtg tatccttcta gagacatttt tatgcttaca   4440
aaggcgaatt gtattcctct ttttttacac aatcagtaat acagcatgag cacacttgct   4500
ttcccagtat tatctctcgg caattgttca gttcacgaca tataaaatac cttgattctt   4560
ttttactggt gccttgtatc ccattgagtg gcataccata atttattttg gggtattaca   4620
aataatgcta tagtgagtag tgttgtaaat atatatcatt tagtgtttat atggatctgt   4680
ctgagtgtaa attcctaaag tggaattgct ggtttaaagg gattatggat ttgcaatttt   4740
agagctactg ccaaacactc ttccctgtgc aggtcatacc agtgtgccct cccaccaaca   4800
gcgtgtgaat gtacccaatg cccaagtcac caacacggtc ttataaagct ttgtcatctt   4860
tcccagtctg aaaaagtgaa aaatcagaga catttgtagg actccttata gaggaatttc   4920
tttgcctgtg gcatgaattg ccaatgtatg ttctctgttt gtcatatttg gcttgtgact   4980
ttgcttgagt tttgccatac agaattttta aaggtttagg tggttgatgt caacaagctt   5040
cttttttgagc ttctaggttt attataatcc ttcagaaagg cttttccaac tcttagatca   5100
ttttttttttc tttgcagaga tttttctaga tcttagagtt ttttaataat tgtatcttac   5160
tttcagctga aatttatcct agtgcaaagc atgaggaaca ttttgatgtt aatacgagga   5220
gacaaatctt aaggaatttg tttaaggtta caaagtttgc acatggtaaa gctaagagtc   5280
aaacccagga ctcttgcatc ccaaaggact cttgaatcat atgcaggact ctctgaatcc   5340
caaactcatg cttctgtgat aggaactacc ggacattatg ccttgtagga ttattgtgag   5400
cattaatgag caaagttaga aagtgggttt gtgtgtgctg ggcatagggg atacacggat   5460
gttttcttca gaccctggcc ctccttactg acagtactga tacttgtcct gaatatcatt   5520
atcgtgtgta ctgagcacga ggttttgcta gattttcaa gcacatttgt cttaatactt   5580
tttccttcct atcccattca ggttcacaga atgattgcag agttcaagct gatccctgga   5640
cttaataatt tgtttgacaa actgatttgg aggaagcatt cagcatctgc ccttgtcctc   5700
catggtcaca accagaactg tgactgtagc ccggtaagca ggagaccccc ggggacagat   5760
ggggcctcac tggcttggag tagttgtttc aagacctgct gctgacccTt tgacctttt   5820
tcctttggga gtagagcaga aactaaaatc atatcttata gtcccctaat tggaagctac   5880
cttggagtag gatctgagtg aactccactc cccaccccaa cctatgcaga aatcccttt   5940
aagatcttcc taggctgggc acagtgactc aggcctgtaa tcccagcact ttgggaggcc   6000
gagcgggcag atcacttgag gtcaagagtt acagaccagc ctggccaaca tggtgaaacc   6060
ctgtctcact agtgtgagag acacttgcgt ctctcactaa aaatacaaaa attggccagg   6120
tatggtgttg ggtgcctgta atcccaactc ttcgggaggc tgaggcacca gaattgcttg   6180
aacccaggag gcagaggttg cagtgagctg agatcacgcc actggactcc agcctgcgta   6240
acaaagtgag actgtgtctc aaaaaaaaaa aaaaaaaaag ttcctgcctg aggccctcta   6300
gccaacttcc ccttgtaatc tctgtgatag ggatctcatt tcactccagg caggggctgc   6360
ccactgcatg agctagcagc ctgctttttcc ttatttgctg tttttatccta ttgtaatttt   6420
catccaccta tagaaccgtg ctcccgggcg tggtggtcac acccgtaatc ccagcagttt   6480
gaaaggccaa ggcgggcaga tcacttgagg tcaggagttc gagaccagcc tggccaacat   6540
ggtgaaaccc cgtctctact aaaaatacaa aaattagcca ggcatgttgg tggggcacct   6600
gtaatccctg ctactcagga ggctgaggtg ggagaatcac ttgaacccgg gaggtagagg   6660
ttgcagtgaa ctaagatcaa gccactgcac atccggcctg ggtgacagag caaagacact   6720
gtctcataca aaaaaaggtg gctttggttt tttgagccca agcactctcc tttagcttgt   6780
gtctctcaca gtcccttga gagagctctg aacaggacat tggaaggctt gttggaagag   6840
cttgaatgaa tcactgaatc tctgagcctc tgtttttcttg caaaagaagg ataatactct   6900
ttccctatt ggcccccgg ctagtcggca ccctgcctac cagcatgaga aggaaagtgc   6960
tctgggacct aaaagtgcca cccagccatc ggcctggtgc catgggccc tcttctcttc   7020
actgcactct ggggacttcc ctcagcgacc tgtcttctgc tttatcattt gagtttttaa   7080
tttcaagcaa atatattttg catttctaga tgttctgtct ggctcaattc ggaaactgct   7140
tagccatgat gttaatatct tttttctgct gcatattctg tttttaatca ttttttaaaat   7200
actttcttaa ggtctctttc gattgctcat ggggcactaa tgcttgtgtt tgggtcttca   7260
gacctcaggg tggagtgttg cctcgtgttt tgtaatgtct gtggagcggc caccagaatt   7320
gcttgaaccc aggaggcaga ggttgcagtg agctgagatc acgccactgc actccagcct   7380
gggcaacaga gtgagactgt gtctcaaaaa aaaaaaaaaa aaaaaattct gcctgaggcc   7440
ctctagccac ttccccttgt aatctctgtg atggggatct catttcactc caggcaggga   7500
gggggctgcc cactgcatga gctagcagcc tgctttttcct tatttgctgt tttatcctat   7560
tgtaattttc atccacctat agaaacgtgc tcccgggcat ggtggctcac acccgtaatc   7620
ccagcacttt gagaggccaa ggcgggcaga tcacttgagg tcagtggggt tagtttcccc   7680
```

2232

```
cttggatacc tgtgtagcct cagccctgga ggcatttcta cagggcactt ttgcttttgt   7740
ctggcagctg tcccagggcc agttttctta tttaatgtct tggccctact gccccagtcg   7800
tatgagccca gggtttctgc tgctcttggg agggcccct tcacccacca gcagcaccat   7860
ggcagagcca ggctccctgg gctggtgggt caggcctttc taacccttct ttcaccaagt   7920
gtacatgctc cccaggcttt actgggacct gacccctgt ctagtccctg cagggcatta   7980
aaacccaagc cttagtgtga ctaggtcttg tctccacctc tccacactgc ccacagctgc   8040
tgagtatcag ttccttggct cactattcca aactcctcgg tcctttcttc atttctaact   8100
cctatggact tcccccgctc ctccccacac gtgttgtttt gtttgttggt tggttggatt   8160
tttgggacag agtctccatc acccaggctg gagtgcagtc agtggtgcga tctcggctca   8220
ctgcaacttc cgcctcccag gttcaagtga ttctcctgcc tcagcctcct gagtagccag   8280
aattacaggc gcagcaacta tgcctggcta attttgtat ttttagtaga cacagggttt   8340
gccatgttgc ccaggctggt ctcaagctcc tgacctcaag cgatctgccc gcctcggcct   8400
cccaaagtgc tgtgattaca ggtgtaacca ccacgccccg ccttattttt tattgagtgt   8460
gatggcatgt ttttagcagg aaggggggcca cattagctta atctgctgtt gatcagatgt   8520
ggaagtgaac agatggtttt ctaactaaag aaaagtcctc atggtacatg aggacagagg   8580
cttagagaag caggctccca ccagagtgtc tgcttgtgtt attttggaac cttgtggctg   8640
tggtcctaac attgaggctg tgcatgtgtt tcaggacatc accttgaaga tacagttttt   8700
gaggcttctt cagagcttca gtgaccacca cgagtaagta caagagtgtc cctgcaagga   8760
gagttgttgg gctgtcttcg gaaggcctcg atctccttgt ctggtccctg acctcagctc   8820
gagaggaggc cctggagctg gtggaagccc actgtcccct cagtgttagc aggtgtgaca   8880
ctgcagtcgg acctcccgtc tttccagact tccttatggc aggcactgcc ccaagctttc   8940
ttctaaccct catagccacc ccaggaactg agtatggaag tcgttggccc cttactacct   9000
ttggaatcaa tggatttctc aacctactgc ccctctaaag caagagtgga cagcgtggct   9060
attcccaggg gccggcagga acttcagaca ggcaaagccg actgcttact gagcagctgg   9120
aggattcttc cctccacaag gaggtgtgct cccatttttc ttgaaagaca ttctgcgctc   9180
atttattttt taaccttcga tggagaatgt acaaggaaaa ttactctctg ctgtaaggaa   9240
aacagtgcag gaagggggtg actagcagct gacccttgac cttggcattg gggaggtgat   9300
gtggggacct tagtgaacaa gaatttcagt gagctcagct ccagccagct gcgtgtgcac   9360
aggaaactgg gcccactgtt gcataacttc tgattttttc tgccaagcaa aggcagaaat   9420
taagatttat gtgaaaggtc ctgattttaa atgttggttt aaatattta aaaaccttgc   9480
atttgagcta acagaacatg cctggagaca gctgtggccc cagggcacct ccatcatatg   9540
cacccatcct ctgtgagagg ttttccggct gaaagccata gaagggctcc aggaagcatg   9600
ttaaccttct gaaaaatggc accacatatg ttatggaact gtgctgtttt ccctgaggaa   9660
gtgagtctct ggctttcatc agactcttca gtctgagtac tctgtgggat atcaggatga   9720
atgcaaacag ccatggcccc tgctctcatg aagggcagag tctgaaaaca gagacagttg   9780
ttcatccaag gattccaccg ttgagcatta gtgataagtg gagatggtat tcaggaggag   9840
aggaacgggg tctgtgagag acatttgaca gggtccagga ctggccagag gacactcagg   9900
aactctcccc tgcagaagtg gcttgccagc caagacctga agtgtcagct tgtagtgaat   9960
tgagtgaaca ggcatgtgag agggtgtgtg ttctagccag aagcccctga acgagggaag   10020
accattgtgg ccagctgatg ggagtgatgt gggcttggct ctgggctggg ctgcacagga   10080
cgttgtgggt cacagtcaca gggtgttgtg ggtcacagtc acaggcctgg attttatata   10140
cagatggtcc acttagaatt tttcaacttc acaatggtac agaagtagaa ttttgaattt   10200
tgatctttc ctgggctcat gataaacagt tcaatactct tgcaatgctg ggcactgagc   10260
tgcagctgca gctcagaatg tatttcaaga aaaatggtga ccagctacac gatcaccaag   10320
gtagacaacc agtactctgt gctgtgcctg ccgtgttgcc agtgattatg gccaactgta   10380
ggctgaagtc agtgttctga gcacattcca ggtaggctag gctaagctag gaggttcagt   10440
gggttagata tattaaatgt gttttctttc ttttttcttt tttcaagacg gaatcttgct   10500
ctattgccca ggctggagtg cagtggcatg atcttggctc actgcaacct ccaccttctg   10560
ggttcaagca attctacctc agcctcctga gtagctagga ttataggcgt gtgccaccac   10620
gcccagctaa ttttttatat ttttagtaga gatggggttt cgccacgttg gccaggctgg   10680
tctcgaactc ctgacctcgt gatccacccg cctggacctt ccaaagtgct gggattacag   10740
acgtgaacca ccgcgccgg cctcaatatg ttttcaactt aacggcattt tcaaatacga   10800
tgggtttatc aggacataac ctcctcctaa gtcaggaaat gtctgttcta aatgcagtgg   10860
gaagctgtgg aagtgttttc accgggagtg acaggatcag agtcctgatt ctgaagatca   10920
cttttggcac cgtgtgatga ctcagttcct gtgggatacc ttttagtaaa gggagctggt   10980
gtcctgggaa cacaggaccc agcagtgaca ggcctggatg gcaagtcggg ggaagtgtca   11040
cagttaacca ggcctctgtg tgatgtgtga ccgtggtgct tggtgggact gctgcagcag   11100
ggccaggctt gagtgtgatt ggacctgttg aggtgttggt gcctttgaga aaacaagtgg   11160
aaatgtaggc aaagagaaag gcccagagct gctgagggaa ggggccttgt cgatgaatgt   11220
ggcaggcagg ggtcgggggat ggggggtgggg ccagggagag attccactgc ctgagagccc   11280
agagttccct cctgcaggtg ctggctggag tgagaggtgc tagaggaaag tgcctggtgg   11340
```

2233

```
cttctcagat tctgtccaca ggaagtgggc aggagactcc ctacactagc ctggtgctga   11400
cccagcagcc ccagttcctg tcctttacct cctccaaccc attttgtttc aggaacaagt   11460
acttgttact caacaaccag gagctgaatg aactcagtgc catctctctc aaggccaaca   11520
tccctgaggt ggaagctgtc ctcaacaccg acaggtgagt gcaggggtgc agcttttccc   11580
tcagcccatc ccggctgccc acgttccccg ggggctcacc ggtgagcaca tccaggtatg   11640
cacgcgtgtc ctctctcaca tgcagctaca gtgtcctgag ggctcctgtg tgccaggcat   11700
tgtattcatg tcacctgcat tttctcattg gagcctcaca gcagccctag gaggggagcc   11760
ccatcagtac ctgcacttga cagatgaggt gagcctcaga gaggtcacct gccagaagtc   11820
atgtgtgctc cgcactgccc caccgccttg tctcgtgcat tcagcccctt tgcttatgtg   11880
ctcctttctt gcctggtggc atctgcagcc aagcaggaca gacagaagcc tcttacctgc   11940
tgccaagtgt taggttgcat tacctgggtt aggtttgcct cacctggagc caggcagtgg   12000
ggggctagtc tcacaggcgt cagaatacag tggactttat ccaacaagag ccatgatttc   12060
ccaacctttt ttgtttgttt gttttgtttt gttttttaga cacaaggtct tgctctttct   12120
ctcaggctgc agagcagtgg tgttatagct cactgcagcc acaaacttct gagctcaagt   12180
gattctcctg cctcagccgc ccgagtagct gggactacag gtgtgcgcca ccattcccag   12240
ctagtgtttt tacttttttt ttgtagagat ggggtctcac tatgttgccc aggctggtct   12300
cgaactcctg gcctcaagtg agcctcccaa agtccaggga ttacaggtgt gaaccacctc   12360
tcctggcctc ccaatctttt ttttctaagg tagcagaact cttcattcaa ataaaattgt   12420
acccagtcct gccctgatgt ctgcagtgga tcacagcaga gctgctctgt ttgaagggcc   12480
cagacccctg cgtgcctggc cgtcttcctt cccccatgac ggggccagag tcatttcctc   12540
atctcctgcc tttgcttcat agactgggaa gctgaggctt ggagttgtgg acacttgccc   12600
aaggccagct ggaagtgaac ctcaggcacg gagtacgctg ggcctcaccc tattggcaga   12660
gtctttcccc atctggcaga ctggcatgac ctgtttcaac acacttttgg tataaacagc   12720
tctcctctgg cagttctaag ccatgtctga ttctggatat gtttctggcc tgggaaggaa   12780
agctggcctg agatgtggtg ggaatgcact tggcagttta attctgtggc tgcaggggtc   12840
tccggggctc tggacccagt tggagcagga aggcatcctg cagacttgga aatgtcccca   12900
tggtttttca ccgcctaagc cagcagaatg acccatcccc agggcccctg tcagcctctc   12960
agatctgtca ccaatatctc tcttctattt caggagtttg gtgtgtgatg ggaagagggg   13020
cttattaact cgtctgctgc aggtcatgaa gaaggagcca gcagagtcgt ctttcaggtg   13080
agtctgggga aaagtacctg ccgattctgc ggggctgcag agccaggtgt ttctcaggag   13140
gttaggaata cctcctttag tcaccagcgt ccatgcctcc tgaagcacaa ttactgttgg   13200
ggagaggtgg tttgactgcc atcttgtgta gttttgactc gacaggtatg tgagagcttc   13260
ttctgcagcc cacagtgacc gagcattcac caagcacctg ttctgtgctg gtgccttatg   13320
ggtgggagag aactaggata cgggccctgc catgaattcc ctagagctgt gctgtttcaa   13380
tgcagtgtgg gaaggaatgg agccagggtt ggcccaggag ctatagcagc aaaggaaagc   13440
ctcttccgct gctagggctg ggggctgggt gaatacaggg agacttctc tgaggtcctt   13500
agatacatct aagatgagtc ttgaagtcag tggacaggta gagttccatc agggccgggc   13560
gtgagctgtc aggaggcttc atgcccacat gggcctttgt cacttcagcat caaccactac   13620
actccctgtc gtggataccc gctgtgccct ctgggtccct cggtcagcat caaccactac   13680
ttccctaggc cagcccatcg tctgtgagcc cagtggcctg tctgcatgtg ttcgtccgct   13740
tcccacacac attcctggcc cctcaattgc acgtcctccc attcttgtga aagggcaagg   13800
cctagagtat gtttcacggg ggctcgcagg agccagccct tcgatcccac atgttaccct   13860
ttctgtgaca cagccccttc cagacagacc cagatagaag acttctccac tgagctggct   13920
ctctgtgagg atggggggcac tgctgtgtcc ccaggcccag gatgaagcct gatgcttggt   13980
agatgttcag taaatgttga gtacatgaaa aggcaacaaa catctcccaa ccccttggag   14040
aactgaacat gggccggaag agggcagcct tagccacctg agccagtatt tgggtcgcag   14100
gttttggcaa gctcgggctg tggagagttt cctccgaggg accacctcct atgcagacca   14160
gatgttcctg ctgaagcgag gcctcttgga ggtatgatct ggagcagcca gtgtcttggg   14220
ttccgtctcc ccccagccca cgcgttgctg tgtcctgtcc tgagccccaa acagttcatc   14280
aggagcagag cagatctcgt gacttccaaa tgcctgtgca ggctgcctta gattttgccc   14340
tgggtttcca actgtgggtt ccccatgggt gcttacgggg tgacaggttt agagggtggc   14400
caggccatgc aggagggtga cagtttggtt acccagcaag gcattttgac cctgaagata   14460
ttttgtacta aaagttaatt ttcctttatt gaataatggt cttcagaaaa agtaaaactt   14520
agagcagaat ggccaaagtt ataattggtc tttcagattt tttcatatgg acaagaaact   14580
gacccacgaa ttataaaatc catgtggaaa agaattgatc caaatcaatg taacttcaag   14640
aaaatgtaga aaactttata aaggagtaaa ttggctttat tctcttgatg aaaactcagt   14700
attttggtgt aaactctatt taaacaattt cgttcataaa cacaaagaca aaccatgggg   14760
tcaaaatgtg tcctttgctt ttaaattctg tccttcattt acttgaatga cctcagtgct   14820
taggcagtgg cctgtgtttt agacctggtg atgacagctc ccctcaccta ggagctgagc   14880
accccggcca tcttggtgac cacagagcag gtcacaggct tcagctgtac gccctgggca   14940
ggggagagat tgtgctgcat tcccagtctg ctccacctcc tggtgaggtc tgtcaggcct   15000
```

2234

```
ggtcctgtcc ttggagccac cagcatcctc agacaagaat ctagacagtg ttgccagttc    15060
catccccagg atgcttgctc aaagccaatg catggtctga gctccatgcc aggccctggt    15120
gggggcagcc acgttgacac cttcaccctg tccctcctca cccagcacat cctttactgc    15180
attgtggaca gcgagtgtaa gtcaagggat gtgctccaga gttactttga cctcctgggg    15240
gagctgatga agttcaacgt tgatgcattc aagagattca ataaatatat caacaccgat    15300
gcaaaggtaa agttaaccca gggctctgtg gagtgtgctg ggttgtccag aagttcacct    15360
ggagtcctgg tctgccaggc tttaggcaca ggttttacgt tagagacgac ggggggagtct    15420
gggcagtctt tggcaaacat tcattggaac ctgctctgtc tggctttgtg ctagaccctg    15480
ggaatgcagg gatgaaaacc ggggctgctt gtgggtaggg agtgagggtg ggaatgggtg    15540
gcttgtgcgc ctgccgtgac gcagcatggt gggtgccacg gtgggagccg ctgtagggag    15600
ggactgggcc tggtgtgtta ggctcaccga gtgtgtgtga cagaaaccca gctcaggcta    15660
gctgaagtaa aattaaaagt aaaaattaaa ggaatccagc acccttgagc gtaaaaccac    15720
tggagagagt gtcggatctg tgctgaattc cggggagtgc ctcttagtac ctgggtggtg    15780
aggggaggtc cctcagctta tctgagcctc tgtcttccta tctgaagcag tggggctggt    15840
agaggtcgct gatgcccctt gtagtgacta tccccccggg ccatggccat acctggccag    15900
cagcccactg cctgctgtga gcttggtttc tgtatagttc caggtattcc tgaagcagat    15960
caacagctcc ctggtggact ccaacatgct ggtgcgctgt gtcactctgt ccctggaccg    16020
atttgaaaac caggtggata tgaaaggtac atgaaaggca ggctgtcaag gcaagtcatg    16080
cagggtaaga atgctggcat cagacaccct gtctccagca gggagacaag aatgactgag    16140
ggagctgcac cagatgccca cgtggccggc ctcaaggtgg cggcttccag ggcaattggc    16200
tttgctgcct tgttcaacac tttaataagg tgaaaatcca ttgttgctag caagatgcaa    16260
agaaaaccag aaaaagacct tcctcttctg ggctggtatt gcctggcacg atgagttggc    16320
cccctcgtcc tcagtgtgct gtgcgtggca tcgcaggtgc cctgtggtgc agcaggcatc    16380
tgaaccctcc tggacttgct aacgcacttc catgtgtatg cgcacgcgtt tcctttttt    16440
cctaggagag ggcttgtggc atccagcaga ttctcctgag ggtttgtgac cccccacac    16500
ccccaaaaag tcaggcactt gttccttgtc acggtcactg tcattgatag caagaagtat    16560
cccggttgtt ggtaatttag ccgtttgctt cctttttctg ccccagaggg tctgtttcag    16620
gggaacagcc acacagattt tggtaccttc ggttattgcc ctgcctccca gttgtgcggg    16680
aagcagttgc tccgacacta gtggacggag cagaacctgt gccttgtggt ctcagcactg    16740
ggccggactc acctgagagc tggtgtggaa aaccagttgc gctaggacct ctgcagaagg    16800
agtggaactt ttgcgttgtt tttcttaatg cagcgtcatg gatccatctt cctgtggagg    16860
gaactcttct gtgtgtgata tggagggcac gggtctggag ccagtctggg gagggctgag    16920
ggagagctgc cctgagcttg gttctggagg atgaggtggg gtgctctgag gcactctgag    16980
aacatggctt tgcctggtag caggacagct ggaggtcctt ctttctgcca cagtcagctt    17040
tcgttgaagc tgttttgatg atgagctcct agcttcagag tcaggaccca agcggggctc    17100
cacgaaaggc ctgggcgacc cagccactgg gcctaagcct gacctgctgc acccctgcct    17160
ccctccacag ttgccgaggt actgtctgaa tgccgcctgc tcgcctacat atcccaggtg    17220
cccacgcaga tgtccttcct cttccgcctc atcaacatca tccacgtgca gacgctgacc    17280
caggtgagag gccccggcag acacacagca gggaaggtcg attggaaacc acttcctttg    17340
tcctggtgcc cagcaggttt ctgtccccca ctccagaagt gcgtctctgg agacccagct    17400
cttctgagga ctgtgctcag gaggaatcag tgtcccattg tacagacagg gcctaaggaa    17460
ggagggctcg caagtgccct caggtcacag gctgacttgc aggccagtgc tctccccgcc    17520
tcccccatgt ccacgtccct cacaccttct gccctgctgg gctttggaat cggacctgag    17580
gctgcccaac tccctcactg aatagtcatg cagccttccc ttctctgagc ctccgtgcccc    17640
tcttttctag agtgaggtgt atcttagcac ctctcagagg tggtctttgg ttccgttctg    17700
aggtgaagca ccaggtggga gtgcatggtg agtggggcag aactctttcc ccaccgaggc    17760
gcgcaggcta gtgctgaatg gcacttctga agcgggataa ccgccccaac acacgcaccc    17820
agccctgcct gggacggacc ttccggaagg agtgatgctt gagcccaggt ctggacaggg    17880
acaggtgttg ttgcctcagg tggggtggga ggtgggcgtg gggaagagga aggtgctcag    17940
tcaggaaact ggggctgctg ggggccccct tccccagtc ctatctcacc tctgtgcagg    18000
gagagctctg tgggtggccc gaggcctggg gccactctcc tccctgcctg atggctaccc    18060
aggttcacca ggggccactg gggctcccac cagccctga ccctgtgggc ctgtggcctt    18120
gcaggagaac gtcagctgcc tcaacaccag cctggtgatc ctgatgctgg cccgacggaa    18180
agagcggctg cccctgtacc tgcggctgct gcagcggatg gagcacagca agaagtaccc    18240
cggcttcctg ctcaacaact tccacaacct gctgcgcttc tggcagcagc actacctgca    18300
caaggacaag gacagcacct gcctagagaa cgtgagtgcc ccaccctcaa gggggtgatg    18360
ggtgggccgc ggaccagggc ctctcagag gggtgtcccg gtgctgggct tgacctgggt    18420
cctccaggcg ccccccagcc cctccctctt gcccagagc tcctgcatca gcttctcata    18480
ctgaaggag acagtgtcca tcctgttgaa cccggaccgg cagtcaccct ctgctctcgt    18540
tagctacatt gaggagccct acatggacat agacagggac ttcactgagg agtgaccttg    18600
ggccaggcct cgggaggctg ctgggccagt gtgggtgagc gtgggtacga tgccacacgc    18660
```

```
cctgccctgt tcccgttcct ccctgctgct ctctgcctgc cccaggtctt tgggtacagg  18720
cttggtggga gggaagtcct agaagccctt ggtcccctg ggtctgaggg ccctaggtca   18780
tggagagcct cagtccccat aatgaggaca gggtaccatg cccacctttc cttcagaacc   18840
ctggggccca gggccaccca gaggtaagag gacatttagc attagctctg tgtgagctcc   18900
tgccggtttc ttggctgtca gtcagtccca gagtggggag gaagatatgg gtgaccccca   18960
ccccccatct gtgagccaag cctcccttgt ccctggcctt tggacccagg caaaggcttc   19020
tgagccctgg gcaggggtgg tgggtaccag agaatgctgc cttcccccaa gcctgcccct   19080
ctgcctcatt ttcctgtagc tcctctggtt ctgtttgctc attggccgct gtgttcatcc   19140
aaggggggttc tcccagaagt gagggggcctt tccctccatc ccttggggca cggggcagct   19200
gtgcctgccc tgcctctgcc tgaggcagcc gctcctgcct gagcctggac atggggccct   19260
tccttgtgtt gccaatttat taacagcaaa taaaccaatt aaatggagac tattaaataa   19320
ctttatttta aaaatgactg ctgtggacct ggcttttgtc cctaggactg tgttttttcct   19380
cctgaacccc aaagaaaaga atgagaagga aactggctgt ggtgtttatt cagggcccag   19440
ggaaggctga aggcagcagg gggcgatgca gagatggcag gatcgggggca ggtggcctca   19500
gccagatgtg caacagcaga cattcctctt tagagcccag ggggtcaggc cgtcactcct   19560
tgtgctgagg agaaagggat agctgagtga gcagtactac ctgtcagccc ccacagtccc   19620
cctgcacaga gagcaatgcc cctgccactc ctccaccttgg ggcccagggc gtcccgggtc   19680
cgtgcccgca gcttgttggc ctgggtttcc gccatgtctg cccgctcctc cgcatcatcc   19740
agctcgtgct gggccttgcg atacttggcc aggttggtgt tggcctgctg ctcctggggg   19800
cacacacagg gccttggttc cgcttgggtg actgagatgc ttattctggt ccctgcccca   19860
gtccaagaag ggagctagct cctcctggtt ctcaactttg ttcctattgc cactgtccat   19920
cctcaccaat accacagcgg gaataaggaa gttgggacgc accaacttca tgtgcctttt   19980
tgtgcctgcc ccaccccctca gaggcagccc cagccttggc caggggaaag cacatggggt   20040
ctgttccatg agaaggagct aggtctgatc tccccagaga tgttagaagc ttctctcttc   20100
cctctgggtc actgaccttg gagggtggag ctgctgctga tgcctcacct ggccacagac   20160
cctggggcag agctgggggtg cccggtccag gtgtccaggc cccagcgcac tcaccgcctc   20220
ctcaaactgg cgcttgtagc tcttgacctt gctctgcagc ttgtccacca ggtcctgcat   20280
gcgagccagg ttctt                                                    20295
```

```
<210> 2161
<211> 188
<212> DNA
<213> Homo sapiens

<400> 2161
tctgcgtgat agttcttcag gttcacttca cagattagct gacacttaac tgttctggaa   60
gctgggccaa ggagtgctaa catggaaatt gagtaactat agtttttttgc ccaaggtaca   120
ggagaataaa tatgagtaga tagaatctct taaattaaaa atttctccag taaattttttc  180
ctaagtct                                                             188
```

2236